Chapter 601: Taking Advantage

The East Asia Energy company issued a total of 2 billion shares to the public. This could roughly be divided into three parts, where one part was bought by the demonstration reactor project team, and one went to various banks.

As for the last part, that was the part that was truly given to the public.

Even though it was a good thing to support the ventures of the country, most people didn't have the opportunity to do this.

Private funds learned the news in advance through various channels, just like vultures smelling carrion. The second the stocks were issued, every single last one of them was bought.

By the time the normal people saw this stock, it was probably already at its daily trading limit. When they could finally buy it, East Asia Energy would have been worth trillions already. By that time, the rapid increase in the stock price would have already been over…

Of course, some funds or investment companies had supercomputers and multi-threaded operations. However, they weren't nutty at all.

After all, no matter how fast their internet speed was, it could only increase their probability of "winning". The number of shares that they could buy still depended on luck.

For the more prestigious and well-renowned funds and investment companies, they only needed to get their share buying rights from "qualified" companies.

For example, in addition to the 2 billion shares issued to the public, they also issued 2 billion shares to qualified companies, such as oil and electric giants.

And this was technically all legal…

Shanghai, Haixiang Capital trading room.

After the online stock ordering session ended, there was an outcry in the room.

In order to get ahead of everyone for the East Asia Energy company's online stock ordering draw, not only did they work overtime in the trading room last night, but they even used supercomputers.

However, the results of the draw had ended, and they were only eligible to buy thirty thousand shares.

Li Xiang, General Manager of Haixiang Capital, looked at the results of the draw on the computer screen. He clenched his fists. His heart almost began to bleed.

Even though thirty thousand shares was quite a lot for most people, for a financial company like them that traded in the tens of millions, this was only a rounding error…

After the results of the draw were announced, the top ten shareholders of the winning bed were posted on the relevant website.

The biggest major shareholder was the State-owned Assets Supervision and Administration Commission, which owned 50%. Then there were the major oil companies, the State Grid Corporation of China, the social security fund… Basically, the "state team". They accounted for more than 80% of the available shares.

There was nothing to say about this. After all, the state had priority.

However, when he looked down at the names of the shareholders, he suddenly saw Star Sky Technology with a shareholding ratio of 7%, and he nearly spat onto the computer screen.

"F*ck, 7%! What kind of fund is this?!" said Vice General Manager Tang Guang. He took the words out of the General Manager's mouth.

"Yeah… I've never heard this name before." Assistant Zhang stood next to them with a confused look on his face as he said, "Maybe… It's some big name's brokerage firm?"

Vice General Manager Tang said, “Then how come we didn’t know about it until now?”

Li Xiang stared at the screen for a while and said, “Look up this company’s background… Even though we lost, we have to know who we lost to.”

Even though this name sounded vaguely familiar, he couldn’t remember where he heard it.

Regardless, he had to at least figure out who the boss behind this company was.

If the boss wasn’t a big name…

He would like to have a chat with him.

Assistant Zhang saw that his boss was in a bad mood, so he immediately nodded and said, “Yes, sir.”

They weren’t the only ones who wanted to figure out who Star Sky Technology was. Half of the domestic financial market was shocked by this company.

Even the overseas funds that were paying attention to the East Asia Energy public offerings noticed this interesting phenomenon.

Even though 7% might not seem like much, this was a giant company that operated in a monopoly market, and it had an almost infinite amount of development space and a future market value that would at least be in the trillions. The amount of publicly available shares for China Petroleum was only 2.2% of the total share capital. This would show how big 7% was.

Lu Zhou, on the other hand, was in Jin Ling University. He didn’t know that his patent management company became famous in the domestic financial circles because of his CEO.

However, even if he knew, he wouldn’t be surprised.

East Asia Energy wasn’t a public company, and it wasn’t controlled by the CSRC[1]. He purchased it at the regular price of 10 yuan per share. This didn’t count as swallowing state-owned assets, nor was it illegal. As for the

private equity funds and financial companies that were in an uproar, they were just unlucky.

After all, the public wasn't particularly fond of the financial funds.

Jin Ling University.

Mathematics building office.

Doctor Yan brought over the medical examination results from yesterday. She looked at the three assistants in the office as she handed the report to Lu Zhou with a strange look on her face.

"They're… your assistants?"

"Yeah, the school arranged for me."

Lu Zhou didn't know why, but he felt like Yan Yan was looking at him with a weird look.

After a while, Yan Yan said, "They're quite young."

Lu Zhou: "Ok."

Yan Yan: "…"

Lu Zhou: "…?"

What is this chick talking about?

Suddenly, the office door opened and a student walked in.

Liu Siyuan walked past Doctor Yan while holding a stack of A4 papers.

"Professor, I've finished the tasks you gave me!"

Lu Zhou looked at his thick eyebags with surprise. However, he didn't say anything since he was more than familiar with the act of working all night.

"Okay, put it on my desk… Why did you come so early today?"

It was only 7 o'clock.

His three assistants were here because of their work requirements, but he didn't have strict attendance requirements for his students. His students only had to complete their works on time.

Liu Siyuan scratched his head and smiled as he said, "I have to work hard, otherwise, I feel like I'm falling behind."

It seemed like Lu Zhou's work had begun, so Yan Yan didn't want to bother him.

"I have to go."

Lu Zhou: "Ok."

Do you want to eat lunch together?

Yan Yan was about to ask this question, but she realized it would be a bit weird to ask this at seven in the morning. Therefore, she dismissed this idea and walked away.

Like usual, after Lu Zhou briefly reviewed the student's work and gave some suggestions, he told Liu Siyuan to go away. He then began to check his email.

Except for an email regarding analytic number theory from Qin Yue, who was lecturing at Princeton, all of the emails were unimportant.

Lu Zhou thought for around five minutes before typing up an email to answer Qin Yue's question.

He was about to close his email and open up arXiv to look for any mathematics or physics research that was worth paying attention to when he suddenly received a new email.

Lu Zhou looked at this email and paused for a second.

Professor Sarrot?

Of course, he wasn't surprised by this name. He was surprised because of the content of the email.

[I was contacted by the FBI.]

Chapter 602: Good Gathering

Near Jin Ling University.

Still that same old cafe.

Chen Yushan had been working in Jinling these past few days. After she received a call from Lu Zhou, they agreed to meet here. Lu Zhou was fulfilling his promise of treating her to food.

“Your laboratory director was contacted by the FBI?”

Lu Zhou took a sip of the coffee and nodded. “Yeah, I received his email this morning.”

“Then try to get rid of this situation as soon as possible.” Chen Yushan held the steaming cup of coffee and sighed. She said, “This is good for both you and Professor Sarrot.”

Lu Zhou thought for a bit and said, “I don’t understand.”

Chen Yushan: “Don’t understand what?”

Lu Zhou: “The Sarrot Laboratory research project does not involve sensitive technology. Most of it is the more troublesome experiments from the Jinling Institute for Advanced Study… If the CIA or FBI is really investigating me, what can they possibly find?”

Chen Yushan: “They don’t have to find anything. Whether it is evidence or witnesses, they can fabricate it.”

Fabricate it?

Lu Zhou had a thoughtful expression on his face.

Chen Yushan looked at Lu Zhou and said seriously, “Anyway, I will help you contact some potential buyers. I’m sure there are many people that are interested in buying a Nobel Prize level laboratory, so it should be able to sell at a good price.”

Lu Zhou: “Thank you… Oh yeah, one more thing.”

Chen Yushan: “What?”

Lu Zhou looked at the coffee in her hand and asked curiously, “Speaking of which, aren’t you an iced americano kind of girl? Why did you get a hot coffee today?”

He was curious when ordering the drink.

He didn’t know why, but Chen Yushan suddenly blushed and stuttered, “I-I just wanted to change flavors.”

Lu Zhou was stunned by her reaction.

“Nothing… I was just curious. If you don’t want to tell me, it’s fine.”

“It’s not that I don’t want to tell you…” Chen Yushan closed her legs and shyly looked away. She quickly said, “I have the thing, I can’t drink cold stuff.”

Lu Zhou: “…?”

Even though he didn’t know what she was talking about, he felt like the conversation just went to a strange direction…

…

After talking with Chen Yushan, Lu Zhou made a decision regarding the Sarrot Laboratory.

Honestly, he felt a mix of emotions when making this decision.

Even though he had always been very careful about not allowing politics to interfere with his research, it seemed to be impossible now.

Even if he didn’t take the initiative to find trouble, trouble would find him.

According to Chen Yushan’s suggestion, starting today, Star Sky Technology’s branch in North America would only retain the necessary management departments and relevant legal teams to ensure that their patent rights were still guaranteed.

As for the R&D department, it would be transferred to China or a country with a lower level of political governance.

They employed a professional to evaluate the assets of the Sarrot Laboratory. After that, Star Sky Technology released the news regarding the sale of the laboratory.

Just like Chen Yushan had expected, the day after the news was released, she received eleven offers for Sarrot Laboratory.

Among them were Lu Zhou's partner, the Belgium Mobil Chemical company, and other international chemical giants, such as Nichia, Dow, and BASF. There was also his old rival Exxon Mobil, which had tried to compete with him on the lithium-sulfur battery positive electrode material project.

These companies all had material needs for their businesses, so their offerings were quite generous.

After comparing all of the offers, Lu Zhou chose the rich and powerful ExxonMobil.

The CEO of ExxonMobil made a special trip to Jinling, Jiangsu, to talk with Lu Zhou about this matter.

Actually, this CEO wanted to talk with Lu Zhou in Los Angeles.Read more chapter on our

However, Lu Zhou told him, "Come to me if you want, otherwise forget about it."

The CEO immediately compromised.

Just like that, the negotiation location was set in Jinling.

With the help from Chen Yushan, Lu Zhou negotiated the original US$45 million offer to US$50 million.

Even though US$50 million wasn't a lot, it was around the price of a private jet, but for Lu Zhou who just spent a lot of his money investing in stocks, this was still a decent amount of cash flow.

Even though Lu Zhou's personal expenses weren't that high, his total expenses were quite large.

Not only did he have to pay thousands of researchers, research assistants, and other researchers in the Jinling Institute for Advanced Study, but there were also nearly a hundred ongoing money-burning research projects.

Especially for the carbon-based chip research as well as the Hall-effect thruster research… Those two were the bottomless money spenders. Even though the national research fund had relieved some of the financial stress, most of the patent-related research project was still funded by Lu Zhou alone.

In addition to the US$50 million, Lu Zhou also wanted to own the seemingly useless carbon-nanospheres patent.

Even though he didn't have any plans of using this advanced technology, ExxonMobil stole this thing from him unfairly.

Now, it could finally return to its original owner.

Speaking of which, a minor disturbance happened because of this.

When Woods first heard that Lu Zhou was interested in the carbon-nanospheres patent, he didn't want to sell it.

But after he saw that Lu Zhou easily gave up on this idea and increased the laboratory sale price by US$1 million, Woods immediately took the deal.

Useless patents were not worth anything.

Rather than letting this million-dollar increase delay the sale of Sarrot Laboratory, Woods would rather put it to good use. After all, in his opinion, a useless patent document was not worth a million dollars…

At last, the contract was finalized. The time for the signing of the contract was agreed to be at 8 pm at the Hilton hotel.

Woods had a painful expression on his face when signing.

However, the instant Lu Zhou signed his name, Woods' painful expression suddenly disappeared, and he smiled as he put away his copy of the contract.

"Happy cooperation!" Woods warmly reached out his hand, showing the most pleasant smile ever.

“Happy cooperation. My workers are all very talented, so remember to treat them nicely. I might want to poach them someday… You seem to be in a good mood. It seems like my asking price was a bit low.” Lu Zhou let go of Woods’ hand and smiled.

“What do you mean? In fact, I’m very sad, very, very sad… But we all have to stay optimistic, right?” Woods laughed and patted Lu Zhou’s shoulder. He was too lazy to keep his act up, and he said, “Do you want to get a drink? I know a good bar nearby.”

Obviously, US$50 million was lower than ExxonMobil’s expectations, and to ExxonMobil, Lu Zhou had received the short end of the stick…

Well, that was ExxonMobil’s opinion.

Lu Zhou put away his copy of the contract and shook his head. He said, “No, thanks, I have plans tonight.”

“Date?”

“Experiment.”

Woods was helpless, and he said, “Okay then, it seems like you’re a joyless man… Honestly, my friend, with all the money you’re making, have you not thought about spending money on yourself and enjoy your life?”

Lu Zhou said nonchalantly, “I am enjoying life. I’m enjoying the experiments and their results.”

Woods shrugged and said, “How unfortunate is that… It seems like I’ll have to drink by myself.”

After the negotiations ended, Lu Zhou left Hilton with Wang Peng.

He sat in his black sedan and looked at the contract in his hand. He took out his phone and sent an email to Sarrot, who was waiting for the outcome of the negotiation.

[The negotiation is over. Your new owner is ExxonMobil.]

After three minutes, an email came back.

The email contained only two words.

[Thank you.]

Lu Zhou smiled and replied.

[You're welcome.]

No data found.

Chapter 604: Unavoidable Bottleneck

On the other side of the Pacific Ocean, it was still noon.

After Sarrot sent the email, he went to the bar and got drunk.

In order to maintain a clear mind for experiments, he never drank during the day. However, today was an exception.

As he sat in a bar in Silicon Valley, his assistant Paul looked at him and sighed. Paul tried to comfort him.

"Think about the big picture. ExxonMobil buying your laboratory isn't necessarily a bad thing. Even though Professor Lu is a great scholar, he didn't actually provide you with that much resources. Not to mention, ExxonMobil spent US$50 million to buy us, they definitely won't just leave us alone…"

Professor Sarrot didn't react at all. Paul knew that his comforting words were not effective. Therefore, he shrugged and ended the conversation topic.

"In short, having money isn't a bad thing."

Sarrot snorted. "You don't understand."

Paul: "What don't I understand?"

Sarrot didn't explain anything. He just picked up the bottle and drank a few mouthfuls. He then began to talk about other things.

"My dear Paul, I have always believed that academic research should have freedom. As long as it doesn't violate basic human rights, even if it isn't definitively correct, as long as you think it is correct, you should advocate for

it. The more people disbelieve in you, the more you should prove to them you are right."

Paul frowned and said, "Do we not have freedom now?"

"Maybe we do." Sarrot stared at the ceiling and sighed. "But once you get to my level, when your research affects the world… Your understanding of freedom will change."

Paul didn't say anything. He just looked at Sarrot.

After a while, Sarrot placed the empty bottle next to the stool and picked up another bottle.

Paul was about to tell him that he was drinking too much when Sarrot suddenly said, "I plan on migrating soon."

"To where? Professor Lu's laboratory?"

"I don't know, but not China. There's only one Professor Lu there…"

Sarrot, who was holding the bottle, scratched his head and said, "Maybe the Netherlands? I heard my father tell me that our family used to live in a small town in Utrecht until the Germans bombarded Rotterdam… I've never been there. A long time ago, Utrecht University sent me an invitation to become a professor, but the salary was too low and the resources weren't comparable to Cornell University… But now that I think about it, maybe it wouldn't be so bad if I take the offer?"

…

The research on fusion batteries had reached a bottleneck. The nuclear core heat dissipation problem seemed to be difficult to solve. A lot of people inside the project team had even begun to doubt the feasibility of this technical route.

After all, was it really possible to miniaturize nuclear fusion?

Also, was inertial confinement fusion on the miniaturized controllable fusion really possible?

The most troublesome thing was that if they couldn't use a magnetic field to withstand the energy, what kind of material could they possibly use to restrain the heat?

However, it seemed that inertial confinement fusion was their only choice. After all, there simply wasn't enough room in a small spacecraft for them to create a magnetic confinement cage for the plasma.

No one had the answer to these questions. They didn't even have any previous research to use as a reference.

In order to find inspiration to solve this problem, Lu Zhou collected a large number of theses in the field of aerospace, fission batteries, and space station cooling technology. He tried to get some inspiration from these public research resources.

Actually, these theses did give him a little inspiration.

For example, the thesis on the "first-principles study of phonons in α-boron and its icosahedral boron-rich compounds" contained an interesting thermoelectric conversion model and discussed the scattering of electrons by phonons.

Converting thermal energy to electrical energy was an interesting idea in some sense. In fact, most nuclear fission batteries used in spacecraft would generate electricity with this method.

However, this didn't solve the problem on a fundamental scale.

Using the temperature difference inside the spacecraft and outside the spacecraft might increase the efficiency of converting thermal energy into electrical energy, but it didn't change the fact that the heat was difficult to dissipate.

Lu Zhou sat in his office and leaned against his chair as he stared at the ceiling and whispered to himself, "If only I could slow down the controllable fusion reaction."

Or reduce the fast ignition area…

Suddenly, a voice interrupted his thoughts.

"Professor, what are you talking about?"

Zhao Huan stood in front of his desk while holding a binder, and she looked at him with a curious expression.

Lu Zhou: “Nothing… What’s up?”

Zhao Huan said, “It’s the tenth week, and your computational materials class is about to begin. This is your class schedule.”

“Okay, just put the schedule on my desk.” Lu Zhou stood up from his desk and sighed as he said, “I’m going for a walk, call me if there is anything.”

“Okay.” Zhao Huan nodded.

She didn’t know why, but she felt like Professor Lu wasn’t in a good mood.

Actually, Zhao Huan was correct, Lu Zhou wasn’t in a good mood; he was even a little annoyed.

His intuition told him that the research path he chose was correct.

However, it was almost like there was an invisible barrier that blocked the seemingly feasible road that was in front of him.

Lu Zhou vaguely felt that the bottleneck wasn’t in the engineering department. Instead, he felt that the problem was in the theoretical field.

Which was, there wasn’t enough theoretical foundation to support his idea of the miniaturization of controllable fusion.

Also, he couldn’t treat this like the tokamak or the stellarator and convert theoretical problems, such as magnetic tearing, into engineering problems.

“Is the research efficiency decreasing because of the advanced research topic?”

Lu Zhou walked along the tree-lined path on campus. He suddenly smiled and shook his head.

Two years ago, when he first got into the research on controllable nuclear fusion, he was in a similar situation.

At that time, the research methods of the L-manifold and partial differential equations had not been invented yet. The existence of a smooth solution to the Navier–Stokes equations and the theoretical model of plasma turbulence were two unsolved mysteries in mathematics and physics.

After he solved these theoretical problems, controllable fusion had a sufficient theoretical basis for it to become feasible.

Without these theories as a foundation, it would be impossible to achieve the results of the German Wendelstein 7-X or the modified STAR-1 stellarator machine.

However, where was the theoretical bottleneck of the miniaturized controllable fusion?

If this really is a theoretical bottleneck…

Lu Zhou walked through the tree-lined path and began to think about these problems in his head. Without knowing it, he walked to the lecture building that he normally lectured at.

He didn't recognize the professor on stage, but from listening to the content, he could tell it was physics.

Through the windows of the lecture hall, he could clearly see the students listening to the lecture intently.

However, when he was about to leave, from the corner of his eyes, he saw a couple of keywords on the blackboard.

A moment of inspiration passed through his body.

Without hesitating, Lu Zhou walked toward the back entrance of the lecture hall.

Chapter 605: Why Do Nucleons Stick Together?

The class seemed to have just begun.

Lu Zhou gently pushed open the back door and looked at the middle-aged professor facing the class. Lu Zhou didn't interrupt the students who were listening to the lecture, nor did he interrupt the students with their heads on their desks. He found a low-key spot and sat down.

Inspiration didn’t just come by itself, he had to go search for it.

A quote by Fermi resonated with Lu Zhou, which was that thinking about easy problems would depend on one’s understanding of esoteric problems.

This seemed to apply to both mathematics and physics.

When Lu Zhou was in Princeton, whenever he encountered a problem he couldn’t understand, he would take time to lecture some undergraduate students, or he would go to other professors’ classrooms to find inspiration.

Like when he was studying the Goldbach’s conjecture, Professor Fefferman’s number theory lecture gave him a lot of inspiration. This wasn’t because Fefferman’s lecture content was deep and complex; it was the opposite. Fefferman’s lectures were all easy material…

When the professor on stage finished writing on the blackboard and cleared his throat, he began to speak.

“Quantum mechanics is a very difficult field. If you really go deep into the field, its content will subvert your understanding of the micro-universe, physics itself, and even philosophy. Even though I sound boring, I don’t recommend you guys to sleep in the first lecture…”

There was laughter in the classroom, and Lu Zhou, who was sitting in the back row, couldn’t help but smile.

It seemed like this professor was a young scholar. At the very least, he didn’t read verbatim off a PowerPoint presentation.

However, his voice wasn’t quite loud enough.

Because the guy sleeping next to Lu Zhou didn’t wake up.

The professor glanced at the students and shrugged. He then continued to speak, “We all know the STAR-2 demonstration reactor in Haizhou was successfully ignited under the command of Professor Lu from our school. Our country’s controllable fusion reactor technology is at the forefront of the world, and we are the only country that has a commercial reactor.”

Lu Zhou, who was sitting in the back row, was a little embarrassed.

Why is a quantum mechanics professor talking about me?

It's not like this is a plasma physics class.

However, the professor on stage was quite enthusiastic, and the students in the lecture hall were also interested. The guy that was sleeping next to Lu Zhou woke up and looked at the professor with a muddled look on his face.

Suddenly, Lu Zhou noticed that the teacher's name and phone number were written on the title page of the quantum mechanics textbook, which was under the student's arm.

Zhang Zhiongqing?

I haven't heard of him before…

"According to the public data, the STAR-2 demonstration reactor, or the Pangu reactor, has an internal nuclear core temperature of 130 degrees, nearly nine times the temperature of the sun's core!"

The students in the classroom were amazed, and Professor Zhang, who was standing on the lecture stage, knew that he had successfully captured the students' attention. So, he immediately followed up with more information.

"Normal temperatures can't stand a temperature like this. So, our country's STAR-2 demonstration reactor uses magnetic confinement to constrain the deuterium-tritium mixture, confining it in a magnetic cage.

"Then the question comes, my students, what temperature is required for fusion reaction? In other words, why is fusion reaction not carried out at room temperature?"

The classroom went quiet.

The guy sitting next to Lu Zhou snorted.

"No sh*t…"

Lu Zhou raised his eyebrows with interest. He was about to ask him for his opinion but the student spoke first, "If it's carried out at room temperature, then it can't be nuclear fusion."

Lu Zhou: "…"

"Is there a student that can stand up and tell us the answer?"

Professor Zhang's eyes swept across the room. When no one raised their hand, he said, "You'll receive bonus marks if you answer this question."

There was a commotion in the classroom.

Half of the students in the classroom raised their hands.

The professor nodded at a glasses-wearing female genius student who was sitting in the front row. She quickly said, "I know! It's because the nucleus is positively charged, so there is a Coulomb repulsion force between the nuclei. Only when the two nuclei are close enough can the strong interaction force overcome the Coulomb repulsion and polymerize the two nuclei. Looking at it from a macroscopic scale, one would have to increase the heat in the system and accelerate the thermal motion of the molecules in the system to create enough kinetic energy to cause a fusion reaction."

"Good answer." The professor wrote down her name and cleared his throat. He then smiled and asked, "Then the next question is, why does the strong interaction only happen at short distances?"

"Because of… the short-range force?"

"That's a high school textbook explanation, it's not quite what I'm looking for." Professor Zhang smiled and gestured the student to sit down. He then said, "You guys are already university students, so you should know the 'why', in addition to the 'what'.

"Quantum field theory tells us that the interaction between particles is not an action at a distance effect, but is actually carried out by using a boson as a medium. For example, electromagnetic waves are photons, and strong interaction is a gluon or a meson, weak interactions are the W and Z bosons… Some people might ask, what does this have to do with the range of the force we are talking about?"

Professor Zhang turned toward the blackboard and began to write.

"When scattering occurs between two resolvable fermions ($p+k \rightarrow p'+k'$), under the Berne approximation, we can conclude that the scattering cross-section and the interaction have a relationship…"

$[\langle p'|iT|p\rangle = -iV(q)(2\pi)\delta(Ep'-Ep)\ ,\ (q = p'-p)]$

[…]

Who am I?

Where am I?

The student sitting next to Lu Zhou was muddled. He looked at the blackboard and thought he was dreaming.

“F*ck me, isn’t this supposed to be nuclear fusion… What day is it?”

It had only been two seconds, and he felt like he had missed an entire lecture.

He wasn’t the only one who felt this way.

Less than half of the class was able to understand what Professor Zhang wrote on the blackboard.

Lu Zhou looked at the muddled guy next to him and smiled as he asked quietly, “Do you want to know?”

“I do… You understand?” The muddled guy looked at Lu Zhou. Maybe because he just woke up, he didn’t recognize Lu Zhou.

Lu Zhou smiled and said, “If you want, then I’ll teach you.”

Professor Zhang stopped writing and turned around. He then looked at the muddled students and smiled.

It’s normal to be confused.

Quantum mechanics is the hard part of physics.

Especially when it comes to the calculations, one would have to have a certain mathematics background.

He could write down a conclusion with no problem, but if someone made him calculate a quantum mechanics problem on the spot, he might not be able to do it in one lecture’s time.

“The calculation process for this part is very complex.” Professor Zhang threw the chalk on the desk and smiled with his hands behind his back. He said,

“Whoever can finish the rest of the equation, I’ll give them full marks for the non-exam grades, and they won’t have to come for my classes in the future.”

The classroom was dead silent.

The students looked at each other.

Even the graduate students that came here for fun, were muddled.

Professor Zhang smiled and shook his head. He was about to give this problem as a challenging homework task, but then, he heard someone speak from the back of the classroom.

“Can I use the blackboard?”

Zhang Zhiongqing: “… ???”

Chapter 606: Unifying Nuclear Power

The f*ck?

God Lu?

He’s my idol!

When Zhang Zhiongqing looked at the person standing up, his glasses nearly dropped to the ground.

When he remembered that this big name was listening to his lecture, he was shocked and happy; it was almost like he had won the lottery. He was shocked that he didn’t notice Lu Zhou was in the classroom, and he was happy that he could brag to people that he gave a lecture to a Nobel Prize winner.

However, even though Zhang Zhiongqing felt a mix of emotions, Lu Zhou was emotionless.

Classrooms were one of the places for academic exchange.

Back when he was in Princeton, he often asked his students to lecture for him.

In his opinion, academic exchanges shouldn't be about honor or status.

"Professor Lu, please go ahead." Professor Zhang made a gesture and respectfully gave up the stage.

"Don't need to be so polite, I just have some ideas."

Lu Zhou looked at the professor move to the side and smiled.

This formality was wasting too much time.

He wasn't a person who liked to waste time on formality.

Lu Zhou walked next to the blackboard and picked up a piece of chalk.

"This isn't a question that undergraduate students can solve since it involves an understanding of quantum chromodynamics and also a deeper understanding of functional analysis."

Lu Zhou paused for two seconds and said, "But actually, it's not as difficult as it seems."

Lu Zhou wrote on the blackboard with a piece of chalk and began to talk about his thought process.

"Using field theory, make a Feynman diagram, then use the Feynman rule to calculate the scattering amplitude, we obtain…"

[iM=(ig2/|p'-p|2+mφ2)2m^ss'·2mδ^rr']

[…]

"The mφ denotes the mass of the corresponding boson, and g comes from the coupling constant in the interaction Lagrangian. If we combine this with Professor Zhang's previous calculation, V(q) can be obtained from the scattering section…"

[V(q)=-g2/(|q|2+mφ2)]

Lu Zhou put down the piece of chalk and looked at the students in the classroom. Some students were muddled, some students were listening intently. He smiled and said, "This part is the simple part, but the next step we'll have to use some tricks."

Everyone: “…”

F*ck sake!

How is this simple?

Zhang Zhiongqing looked at the blackboard as well. He was also amazed.

It wasn’t that he couldn’t understand the calculations, but he couldn’t believe that someone could actually calculate these things on the spot.

Do these people not take time to do calculations in their brains?

This is amazing…

Lu Zhou didn’t stop. He turned to face the blackboard as he continued to speak while writing, “Then we do an inverse Fourier transform on it!”

The chalk sliding on the blackboard was getting faster and faster, and Zhang Zhiongqing was more and more amazed. As for the students, they were looking at the blackboard with a blank look on their faces. Even the genius students who had finished the entire textbook were staring in disbelief at the complex calculations.

Lu Zhou didn’t notice their expressions; he was completely immersed in his own world.

Admittedly, these were basic things, but they weren’t basic enough to appear on an undergraduate class exam.

However, the more Lu Zhou thought about this problem, the more steps he wrote on the blackboard. His train of thought became clearer and clearer.

Why does the strong interaction force only work at short distances?

To put it in other words, what makes nucleon form a nucleus only at short distances?

The answer is obvious…

[…]

[V(r)=-g2/4πr·e^(-mφr)]

Lu Zhou stopped writing and looked at the equation on the blackboard. He then said, “Electromagnetic interaction is the exchange of photons, and the mass of a photon is zero, so for electromagnetic interaction, V is proportional to 1/r.

“The strong interaction force is the meson acting between the nucleus. The mass is about 200 MeV. With some calculations, we can estimate that only at a distance of 10 to the power of negative 14 meters, can the nucleus force offset the electromagnetic repulsion between protons and cause fusion reactions.”

The first row began to applaud.

Like waves in the ocean, the applause began to spread toward the back of the classroom.

Professor Zhang, who was standing next to him, began to subconsciously clap.

For most university students, this was just an exciting demonstration.

But for a professor like him, he just witnessed a simple solution to explain the strong interaction distance… At least, it was a lot easier than the explanations he had learned before.

He couldn’t believe that this was all done in less than ten minutes.

He was probably the only one who could fully experience this moment.

Lu Zhou was still on stage.

Even though the classroom was filled with applause, Lu Zhou, who was standing in front of the blackboard, was immersed in his own mind. He didn’t even notice when the applause stopped.

He already finished all of the calculations for the simple problem.

However, he wasn’t only thinking about this one problem.

According to quantum field theory and quantum chromodynamics, the four basic forces and the traditional particles could be unified into one.

For example, during different positions of time and space, the components of an electric field could be constructed as noncommutative operators. When one constructed a Hilbert space in which these operators act, traditional particles, such as electrons, can be reinterpreted as a Dirac fermion, a quantization of the field.

This way, the difference between a field and a particle would disappear.

Was it possible for a simple mathematical equation, like the Weinberg Salam Glashow weak electric unified theory, to describe the electromagnetic interaction, the weak interaction force, and the strong interaction in a unified way?

The answer to this question couldn't solve the miniaturization of controllable fusion, and it wouldn't be able to bring any innovation to the existing controllable fusion technology. However, Lu Zhou's intuition told him that if he could solve this theoretical problem, it might provide him with some clues or ideas…

Of course, solving this problem was not easy.

For example, there was the classic strong interaction force and weak interaction force problem…

After the class bell rang, Lu Zhou was still standing still, as if he was thinking about something.

Seeing how Lu Zhou didn't react, Zhang Zhiongqing didn't want to announce that the class was over since he didn't want to interrupt Lu Zhou's thought process.

Around two minutes passed by.

Lu Zhou stared at the simple calculations on the blackboard and began to speak to himself, "How would one explain the Yang-Mills existence and mass gap in mathematical terms?"

When Zhang Zhiongqing heard this problem, he was stunned. He blushed like a student and mumbled, "I don't know."

"I didn't ask you, of course you don't know…"

Lu Zhou spoke to himself and left the classroom, leaving the muddled students and professor behind.

No one could tell him the answer to this problem.

After all, this was one of the most difficult propositions in the field of particle physics. It was about the unified field theory.

This was also one of the internationally recognized Millennium Prize Problems…

Chapter 607: Bald

Five minutes after the class ended, the Jin Ling University's Wechat news feed exploded because of a physics class.

[F*ck me, God Lu just came to our physics class.]

[Which one?]

[Zhang Zhiongqing's quantum mechanics class, what else can it be.]

[F*ck me, God Lu's physics class? Which classroom???]

[The class is over already!]

[Over already? F*ck, why don't these big names tell us beforehand when they give lectures.]

There were quite a lot of people in the university that just did the bare minimum, but there were also people that knew how to take advantage of an opportunity, and there were quite a lot of genius students here.

As for the students who were interested in going into research, listening to a big name's lecture was a valuable opportunity.

After all, this kind of opportunity was once in a lifetime.

It didn’t even matter if they couldn’t understand the lecture. As long as they could understand one concept, it would be much more useful than reading a textbook by themselves. Because there were a lot of things that couldn’t be taught from textbooks.

After Lu Zhou walked out of the classroom, he walked toward the mathematics building.

The only thing he wanted to do right now was to write down the inspirational thoughts he just had.

Actually, the evidence of the strong force interacting with the Yang-Mills existence and mass gap had been proved by theoretical physics experiments, and it had been verified by computer simulations.

However, explaining it from a mathematics perspective was still an unsolved mystery.

Simply put, for most mathematicians, this was a complex physics problem. For most physicists, this was a mathematics problem.

Solving this problem would require inventing both mathematics and physics theories.

Lu Zhou wasn’t a hundred percent certain he could solve this problem.

After all, theoretical physics wasn’t his strong suit.

During his time at Princeton, his research was mainly in the field of mathematics. Other than discovering the 750 GeV signal, he didn’t do any other research in the field of theoretical physics.

If he were still at Princeton, he would choose to ask Edward Witten or Dean Goddard for advice since they were all experts in theoretical physics and had a deep understanding of the unified field theory.

But now, he could only communicate with his friends through email, and a lot of problems couldn’t be articulated properly in emails.

As for the domestic academic circle…

Honestly, it would be quite difficult to find someone to talk to about this problem.

Even though Mr. Yang, one of the founders of this field, was happy to discuss this issue with him, at nearly a hundred years old, Lu Zhou didn't want to bother him.

Especially when he thought about Professor Atiyah's five-page thesis on the Riemann's conjecture, he had no expectations for elderly scholars.

After all, age is a curse for scholars…

"Do I have to rely on myself?"

Lu Zhou sat down in his office chair and picked up a pen. He wrote down a line of words and used mathematical language to describe the problem.

[Want to prove: For any compact single group G, there is a quantum Mills field with G as the norm group on R^4, and there are Yang-Mills existence and mass gap of Δ>0]

The tip of the pen gently traveled across the draft paper. As Lu Zhou looked at the line of words on the draft paper, he fell into deep thought.

Even though he wasn't very confident he could solve this problem, he still had an idea of solving it.

First of all, this huge proposition could be divided into two parts.

The first part could be proven purely by mathematical methods.

Which was, to mathematically prove the existence of the solution to the Yang-Mills equations or find the general solution.

This part wasn't too useful for physicists. After all, they had obtained the conclusions that they wanted through high-energy experiments and computer simulations. However, for mathematicians, the meaning of a general solution to this system of equations was significant.

Just like Edward Witten once said, if anyone could achieve this task, that person's accomplishment would become a milestone for the 21st-century mathematics to catch up with the 20th-century theoretical physics…

Of course, Lu Zhou took into account that this was said by a physicist who won a Fields Medal. In his opinion, mathematics had its own development trajectory, and he didn't think mathematics had to catch up with physics.

If someone really wanted to argue about this, it would be a bit ridiculous.

As for the second part, that was more of the core content.

Which was, the proof of the Yang-Mills existence and mass gap.

Completing this proof would benefit both the mathematics and physics communities. Not only would this proof create new mathematics methods, but it would also clarify the laws of nature that the physicists had not yet fully understood, and physicists could use this to invent an even more advanced theory.

For example, unifying strong interactions and electromagnetic forces…

Doing this would mean the entire theoretical physics community would be one step forward toward the Grand Unified Theory.

Time slowly passed by.

Lu Zhou stared at the mathematical proposition on the draft paper and went into deep thought. He sat in front of his desk with a ballpoint pen in his hand. Other than a trail of ink dots, nothing else was written on the draft paper.

He sat there until six o'clock when he heard the bell ringing from outside his window. He finally wrote down two lines on the paper.

After that, he stood up and left the office.

Inside the office.

Two minutes passed by.

Feng Jin looked at the door, and when he saw that Lu Zhou wasn't going to come back, he stopped writing and stood up as well.

He noticed Lu Zhou was sitting there "daydreaming" for over half an hour.

Even though he had stayed in this office for some time, this was his first time noticing Lu Zhou with this expression on his face.

He was curious about the problem that was able to trouble his supervisor, and so, he pretended to go to the water dispenser to get some water. He wanted to walk past Lu Zhou's desk and see what was written on the desk.

He was still a genius student at Jin Ling University. If he could provide some help to Lu Zhou, maybe he would earn some brownie points.

However, the reality was often cruel.

When he looked at the calculations on the paper, he froze.

[H∧(L)=∑(rows)∑(c)·h^(c,c+1)+∑(columns)∑(r)·h^(r,r+1)+∑(i∈∧(L))·h(i)]

[…]

Feng Jin: "… ???"

*F*ck me, what is this thing?*

He Changwen saw that it was getting late. He wanted to go to the cafeteria to get some dinner, so he stood up.

He noticed his friend standing next to Lu Zhou's desk with a muddled look on his face. As a doctoral student, he tried to discipline the younger student.

"Don't look at the supervisor's stuff."

It seemed like he wasn't convincing enough, so he added another line.

"You'll go bald."

Feng Jin: "…"

Liu Siyuan: "…"

Han Mengqi: "…"

Chapter 608: Grid-Connected Power Generation

Ever since Lu Zhou went to the physics class on campus, he basically didn't leave his house for a week.

When he was still in Princeton, he would still go to Walmart to buy groceries, but now, there was someone else to buy groceries for him.

Even though Lu Zhou didn't want Wang Peng to run his errands, he had asked him so many times that Lu Zhou wasn't ashamed anymore.

On the other hand, a lot of things happened in the outside world during his one-week retreat.

The most important one was probably from East Asia Energy.

On the second day of his retreat, East Asia Power, which already completed its reorganization, reached an agreement with the State Grid Corporation of China Jiangsu division. The twelve ferrofluid electric energy generators from the Tianwan Nuclear Power Plant had finally completed their final commissioning and had been officially connected to the grid to deliver clean, cheap electricity to the province of Jiangsu. This was all done at a fairly cheap but still profitable price.

The one that felt most of the changes, other than Haizhou, was probably the Gusu District in Jiangsu Province.

This industrial town in the middle of the Yangtze River apparently supported half of the high-tech industries in China. With only a population of 10 million people, their annual power consumption was almost equal to Shanghai. It broke through 150 billion kWh a few years ago, and it was now running at 200 billion kWh.

After the Pangu fusion reactor was integrated into the power grid, the electricity price of the Jiangsu district fell by nearly half.

For the manufacturing owners in the Jiangsu province, this was basically money falling from the sky.

Especially for large power consumers in the semiconductor industry, the production cost had visibly decreased.

In this economic downturn, integrating the fusion reactors into the Jiangsu province was a godsend.

On the surface, the decline in energy costs only lowered the cost of electricity for factory owners and entrepreneurs, but in fact, it changed the future of the entire city as well as the people who were living there.

The cost of production had dropped and the companies had more money. This money would be used to upgrade production technology, develop automation, and create the railway electrification system. The industrial structure of the entire city and even the provinces would shift toward a more centered area of the industrial ch[a]ain.

This kind of economic effect caused by a revolution of the energy structure was much more effective than direct payments of subsidies to a bunch of leeches.

In addition to industrial electricity prices, the electricity prices of Haizhou, Gusu, Jinling, and other cities had also experienced a steep downfall of 10% to 20%.

However, it was currently spring. Summer was the peak electricity consumption season. Most people didn't feel a significant impact of the price reduction yet. At most, they were surprised when they saw the electricity bill. Some of them weren't even surprised.

After all, the process of a society moving into the future couldn't be done overnight. It was often done in subtle and nuanced ways.

However, looking at the macroscopic data, after the electricity prices decreased, the demand for electrical appliances and electric vehicles had a small increase.

Maybe after a while, Gusu would have a few electric public transport buses.

Perhaps in another year or two, smart devices such as vacuum robots would spread throughout households and wired or wireless electric vehicle chargers would have unknowingly migrated from gas stations to mall parking lots.

Maybe in three to five years, small pieces of postage or takeaway would be done by drones that could fly between tall buildings.

Human's pursuit of efficiency was limitless.

It was now 2020, the first year of the Pangu reactor being connected to the power grid.

As for what the distant future could be like, only time could tell.

…

This was the first time Lu Zhou focused on a pure mathematics problem after he leveled up to mathematics level 8. This was also his first time experiencing the difference between mathematics level 7 and level 8.

The difference wasn't in the calculations.

It was more reflected in a transcendent way of thinking.

It was very hard to describe this feeling. But if he had to write down his thoughts, it would be as if his entire body were immersed in the mathematical proposition, like everything in the world had slowed down.

Maybe because his thinking speed had increased, that was why the time seemed to slow down?

This sounded a bit outrageous, but this was how Lu Zhou felt.

Of course, even though his thinking speed had increased, when he was immersed in research, he still felt time would fly by quickly. Without knowing it, an entire day had gone by. He still had to rely on his stomach to remind himself to eat.

Lu Zhou stopped writing and pinched his eyebrows. He looked at the time on the bottom right corner of his computer screen.

"Is it ten o'clock in the morning already?"

It was just pitch black outside, but it's so bright now.

Of course, what surprised him more was the date.

A week had passed since the physics lecture he attended, but he didn't feel this week passed by at all.

Lu Zhou opened the curtains and looked at the rubbish bin that was full of draft papers as well as the stacks of draft papers on his table. He sighed and got out of his chair.

"As expected, it's not that easy to solve…"

However, his work over the past few days wasn't resultless.

At the very least, he nearly finished the part on the proof of the existence of a solution.

Objectively speaking, the mathematical difficulty of the Yang-Mills equation wasn't as difficult as the Navier–Stokes equations.

When Lu Zhou was trying to solve the existing problem of the Navier–Stokes equations, he invented the L-manifold and the "differential topology research method for differential equations" during his research. They were also very effective in solving the existence of the solution for the Yang-Mills equations. This saved him a month of work, at least.

If he didn't have to do something today, he would have continued his retreat.

However, today was the beginning of week ten.

He still had to teach a computational materials science class later.

If his doctoral student were excellent enough, he would have given this task to him.

Unfortunately, Wu Shuimu's current level of computational materials was still too far away for him to lecture others. Wu Shuimu was less competent than his two master's students at Princeton. Therefore, Lu Zhou had to do this thing himself.

Lu Zhou stood in front of the door of his study room and thought for a bit. He cleared his throat and said, "Xiao Ai, help me clean my room… Clean the things on the desk."

A chat bubble popped up on the lower right corner of the computer screen.

[Okay, Master! (๑•̀ㅂ•́)و✧]

Soon, a drone flew in from the open window and after grabbing the rubbish bin full of papers, it flew out the window. After that, a sweeping robot brushed past Lu Zhou's legs and went into the study room. It began to clean the rubbish on the floor.

Lu Zhou smirked and looked at the little guys helping him clean his room. He then turned around and walked downstairs.

He hadn’t been outside for a week, and the study room wasn’t the only thing he had to clean up.

Lu Zhou took a hot bath and dried his hair. He put on a clean outfit and looked at himself in the bathroom mirror for a while before walking to the front door.

When he was about to put on his shoes, he heard the doorbell.

He looked through the security camera and saw the person standing outside his gate. He paused for a second.

Yan Yan?

What is she doing here?

Even though Lu Zhou was suspicious, he still pressed a button to open the gate for her. He then opened the door.

After a while, Yan Yan walked through the front yard and went into the house. She was wearing casual clothes.

She didn’t greet him. She only looked at him.

“You didn’t go to the medical examination yesterday.”

“Oh, really? I don’t really remember.”

Lu Zhou vaguely remembered that Wang Peng had told him about this, but he was thinking about the problem when he was on the phone. He couldn’t remember what he talked about in the phone call.

Yan Yan looked at Lu Zhou’s muddled face and sighed. “I know you’re busy. I even brought the stuff to you… Oh yeah, you haven’t eaten breakfast, right?”

“I was about to eat…” Lu Zhou looked at the plastic cup and cotton swab that she handed him and asked, “What’s this?”

Yan Yan said, “One’s for urine collection, one’s for feces collection. Do you need my help?”

Lu Zhou: “No need, thanks.”

He originally planned to eat then go to class.

But now, he seemed to have lost his appetite.

[a]what is a “centered area”? like central area?

Chapter 609: Proof of the Existence of a Solution

It was in the afternoon.

Lu Zhou stepped into the classroom in the midst of the bell ringing. He looked at the crowded classroom and smiled while making some simple opening remarks. He then began to give the first-ever computational materials science lecture in his life.

Actually, strictly speaking, computational materials science wasn’t part of the core applied chemistry classes. The mathematics knowledge and the programming knowledge that were needed were a bit too advanced for undergraduate students.

However, due to the development of computer technology, the field of computational materials science was becoming stronger and stronger. Also, because Lu Zhou was the founding father of this emerging discipline, this course had been classified as a core class, which was compulsory for all applied chemistry students.

After all, Jin Ling University had been around for many years, but there had only been one Nobel Prize alumnus.

However, classifying it as a core was unnecessary.

Even if the class wasn’t compulsory, Lu Zhou didn’t have to worry about people not coming to his class.

Not only were there Jin Ling University students sitting in the classroom, but there were also genius students from Dong University that took the subway to come here, and even professors in fields like theoretical chemistry, nanomaterials, etc. After the class, most of the people would talk about how “difficult” it was, but in fact, most of the people were taking notes seriously…

Lu Zhou used a hundred and twenty percent of his energy to lecture, and after the lecture, he left the classroom in the midst of a round of applause.

He looked at his phone in the hallway and saw that it was still early, so he went to his mathematics building office.

When he arrived at his office, his students and assistants were all here.

Even though he hadn't been at the office for the past few days, all of his students had been clocking in every day.

Lu Zhou sat down at his desk and looked at his tidy desk. He reached out and flipped through his document folder. When he couldn't find what he was looking for, he asked casually, "Where are the draft papers that I put on my desk?"

Assistant Zhao stood up and quickly said, "I put it in your drawer when I was organizing your desk."

Lu Zhou: "Oh, thanks… But in the future, you don't have to organize my desk, just keep it the same."

Zhao Huan said, "Okay, Professor, I'll take note."

Lu Zhou found the draft papers from his drawer and placed it on his desk. He looked at the lines of equations he wrote a week ago and thought for a moment. He then began to continue where he left off.

Feng Jin, who was writing at his desk, hesitated for a bit. He then finally made up his mind and stood up before walking toward Lu Zhou.

"Professor."

Lu Zhou looked at his student standing next to his desk. Since he was in a pretty good mood, he said, "What?"

"That question… Did you solve it?"

Lu Zhou smiled and asked, "You read my draft papers?"

Feng Jin awkwardly scratched his head and said, "I accidentally saw it…"

Lu Zhou looked at him and didn't say anything.

He didn’t really care that Feng Jin secretly read his draft papers.

After all, he wouldn’t put anything important on the table. If he wanted to hide it, he would at least put it in his drawer.

“Then what? You researched the problem for an entire week?”

“Yeah.” Feng Jin saw that Lu Zhou didn’t seem to care, so he sighed and scratched his head as he muttered, “I tried thinking about it for a week, but I don’t have a single clue.”

“It’s normal. If you can solve that problem, forget about a master’s degree, you can become a professor right now.”

Feng Jin smiled awkwardly.

It was true, challenging the Yang-Mills equation was a bit ridiculous for him.

Lu Zhou looked at his expression and knew what he was thinking, so he smiled and said, “Tell me about your thoughts over the past week.”

Feng Jin said, “Thoughts?”

Lu Zhou: “That’s right. Since you’ve been thinking about it for a week, regardless of whether or not you found the solution, surely you have thought of something? Don’t tell me you just looked at the draft papers and wrote down some nonsense.”

Feng Jin blushed and said, “It’s not nonsense, I thought about it seriously.”

Lu Zhou raised his eyebrows and asked, “Like?”

“Like…” Feng Jin thought that Lu Zhou would laugh at him again, so he hesitated for a bit before clenching his teeth and bravely speaking his opinions.

“According to my understanding of quantum mechanics, the Yang-Mills field is mass-less, yet the strong interaction mediated meson has mass. In this case, if we introduce a scalar-field on top of the space-time manifold, it would simplify this problem.”

Lu Zhou nodded with approval and said, “Correct.”

Surprised, Feng Jin looked at Lu Zhou. He didn't expect him to actually compliment himself.

Lu Zhou: "You've studied quantum mechanics before?"

Feng Jin, who was a little surprised, suddenly felt a little depressed.

I guess Professor Lu isn't complimenting my thoughts, but rather my attitude toward studying extracurricular knowledge…

Feng Jin nodded. Lu Zhou smiled as he said, "You remind me of someone."

Feng Jin paused for a second before asking, "Who?"

"One of my students at Princeton. He studied under Witten and was in the mathematical physics field. You guys have similar personalities, both competitive types."

Speaking of which, time really flew by. It had been a year since he left Princeton.

Lu Zhou didn't know how his students were doing.

Qin Yue was probably lecturing at Princeton, and they had talked about number theory problems some time ago.

Vera…

Lu Zhou's expression was somewhat unnatural, and he coughed and diverted the conversation.

"Anyway, back to what we're talking about. In a sense, there aren't huge problems with your idea."

Feng Jin asked excitedly, "Really?"

"Don't be too happy just yet. Like I said, there aren't huge problems." Lu Zhou looked at Feng Jin's excited expression and said, "However, in terms of physics, having no problems doesn't mean it is correct."

"Doesn't mean it is… correct?"

“That’s right.” Lu Zhou looked at Feng Jin and nodded with approval. He said, “When you can really understand the meaning behind this sentence, then you’ll be closer to the truth than ever.”

…

Lu Zhou stayed on campus until 6 o’clock in the evening.

When Lu Zhou returned home from school, it was already dark outside.

He went straight into his clean and tidy study room and sat down on his chair. He quietly picked up a pen and began to finish the incomplete proof from this morning.

Sometimes, mathematics problems were almost magical.

After a proof idea appeared in his mind, Lu Zhou already knew the proof process would work. All he had to do was to write down the proof in a rigorous mathematical form.

After Lu Zhou wrote down the last line of equations, he looked at the stacks of draft papers and smiled.

Even though this wasn’t a decisive result, it could be considered an in-progress result.

Which was, he used mathematical methods to prove the existence of a solution to the Yang-Mills equations.

This was the first half of a Millennium Prize Problems, and this part wasn’t challenging for him at all.

Even though he used some advanced mathematical techniques to solve this problem, it was nothing novel.

Actually, the core of the whole proof was built around the L-manifold that he invented when he was solving the Navier–Stokes equations.

Regardless, the problem was finally solved.

The next step was to find the actual solution to the Yang-Mills equations…

Compared to the proof of the existence of a solution, this part was undoubtedly more challenging…

Chapter 610: Most Suitable Reviewer

Princeton.

An office in the Institute for Advanced Study.

Wei Wen sat at his desk while staring at the draft paper on his table.

Around 2019, after Lu Zhou left Princeton, he recommended Wei Wen to study mathematical physics under Professor Edward Witten.

Wei Wen was at first quite excited to study a PhD under Professor Witten.

Anyone who was in the mathematical physics field or who knew anything about mathematical physics had heard of Witten's name before.

However, studying a PhD under a big name was obviously not an easy task. His excitement didn't last very long, and soon, he began to feel the pressure.

Because Witten had to frequently visit CERN, he would be at Princeton only a third of the time. Most of the time, Wei Wen had to face his academic difficulties alone.

After Wei Wen was accepted as Professor Witten's student, he finally understood why Luo Wenxuan took so long to graduate. He also realized how much Professor Lu really cared about him.

Even though he graduated more than a year ago, Lu Zhou would still help him solve problems.

Or he would help him find someone that could solve the problems…

Professor Fefferman walked next to him holding two cups of coffee. He placed one cup on Wei Wen's side and one cup on his side. He then asked in a warm tone, "Do you have an idea?"

“Not right now.”

“Do you need help?”

Wei Wen shook his head and stared at the line of equations on the paper.

“No, thanks, you’ve already given me enough help… Give me another ten minutes, I feel like I know the answer, I’m so close.”

“Ten minutes is not enough, try two hours.” Fefferman looked at his watch and said, “I still have a differential equations class to each. Anytime before 6 o’clock, you can find me at the dean’s office.”

Wei Wen said, “I’m sorry for taking so much of your time.”

“It’s fine, I’m not that busy anyway.” Professor Fefferman took a sip of the coffee and smiled. He said, “Not to mention, Professor Lu has helped me a lot, now that he’s not here, you can ask me any problem you want.”

Wei Wen smiled in his heart but didn’t say anything.

Even though he knew that Professor Fefferman didn’t mind helping him, he still felt extremely guilty.

Maybe this is a culture difference.

Knocking sounds came from the door, and soon, a glasses-wearing young man walked in.

Fefferman seemed to have recognized this man. After Fefferman saw the stack of A4 papers in his hand, he suddenly looked nervous.

Just like Wei Wen had guessed, the guy shook the thesis and said, “Professor Fefferman, Professor Sarnak from the editorial department of Annual Mathematics asked me to bring you this paper. He told me to politely tell you that he hopes you can review this paper.”

“Then tell him, that this way of sending the message is not polite at all. I hope next time, he can send me the review invitation to my email instead of coming to me in person.” Professor Fefferman looked at the overwhelmed assistant and shrugged. He said, “Also, I’m going on a holiday in two days, so tell him to find someone else.”

“Professor Sarnak knew you would say this,” the assistant said. “He told me to tell you that you are the most suitable candidate and that you are the only one who can review this thesis.”

Professor Fefferman stared at the assistant for a while before putting down his cup of coffee. With a sigh, he said, “Okay then, bring it over here.”

He had never been good at declining other people’s requests, especially when it was in his field of expertise.

The assistant smiled and handed over the thesis. “Okay, Professor.”

The assistant didn’t stay in the office. He turned around and left.

Fefferman had to conduct a lecture soon, so he didn’t have time to read it. He merely briefly flipped through the pages.

There were no author names on the thesis.

This type of double-blind review process was uncommon.

Fefferman guessed that the author was either one of his acquaintances or a colleague at the Princeton Institute for Advanced Study.

However, this wasn’t important.

Even if he knew the author from the style of the thesis, he wouldn’t hinder the review process due to friendship.

“The existence of a solution to the Yang-Mills equation? Shouldn’t Witten read this thesis? I bet he’s more interested in this than me.”

Fefferman looked at this eye-catching title. He raised his eyebrows and began to read.

He soon snorted, and his eyebrows furrowed.

Wei Wen noticed this and asked, “What’s wrong, Professor?”

Professor Fefferman stared at the thesis for a while and suddenly smiled, shaking his head.

“Nothing.”

He finally knew why Sarnak insisted on letting him review this thesis.

“L Manifold… Also, a partial differential geometry method for a partial differential equation.” Professor Fefferman’s finger swept over the printed A4 paper as he spoke emotionally, “I only know one person in this world who can apply these theories to such an extent.”

Wei Wen’s expression changed.

“Professor Lu’s thesis?”

“Yes.” Professor Fefferman nodded and said, “The proof of the existence of a solution to the Yang-Mills equations. It seems like he hasn’t stopped his mathematics venture.”

When Wei Wen heard the thesis content, he took in a deep breath. He was overwhelmed.

Challenging two Millennium Prize Problems…

Is he even a human?

Professor Fefferman sat down at his desk and took out his phone from his pocket. He scrolled through his contact list and called his assistant.

“Yo, Lewis, are you free right now? I have a partial differential equation class in half an hour. Regardless of whether you can or not, I hope you can find someone to do the class for me.”

“Um, I’m a bit busy.”

“It’s important.”

They only exchanged three sentences.

After that, Fefferman hung up the call and placed his phone on his desk.

He looked at the thesis on his table. His eyes flashed with excitement.

Let me look at this.

You’ve left Princeton for a year.

Did your mathematics ability improve or worsen…

Chapter 611: You Wrote That Thesis?

Peer review was a job without glory.

First of all, this was an unpaid job. Well, it was paid in things that were unrelated to money, such as journal acknowledgments, positions in the editorial department, free access to journals, discounts on thesis processing charges, etc.

Secondly, being able to judge whether something esoteric was correct or not, was very difficult in and of itself.

If it were a normal proposition, it was fine, but when it came to a world-class problem like the Yang-Mills equations, there was no room for error. Every line in the thesis had to be carefully reviewed by reviewers.

The reason why people would accept this job, other than for the reputation of being a reviewer for a well-known journal, was more out of social goodwill and a sense of purpose for being a scientific research gatekeeper.

For a scholar who had made a name for himself, Professor Fefferman's motivation for accepting this review was probably the latter reason. However, when he received the thesis, he threw all of these reasons out of the window.

Starting from the first line of calculations, the calculation process was like a flow of water. Like magic, it instantly grabbed his attention.

Especially the paper's understanding of the differential geometry of partial differential equations, as well as the application of the L Manifold, it was so subtle that he could hardly believe it.

He couldn't believe that a theory that was only two years young could develop to such a mature level.

"This is incredible."

Professor Fefferman spent around fifteen minutes just on the first page. He couldn't help but feel emotional.

He felt a little regretful earlier that his holiday was going to be interrupted.

But now, there wasn't an ounce of regret in his heart.

The time in his office slowly passed by, and the sky outside the window gradually darkened.

Wei Wen was sitting at another desk in the office. When he finally found the solution, he took a deep breath. He stretched his back and felt relaxed.

He was about to stand up and go to the cafeteria for some dinner when he noticed Professor Fefferman sitting nearby. He was still sitting in the same position while reading the thesis in his hand. Professor Fefferman would occasionally write something on a piece of draft paper.

Wei Wen hesitated for a bit and couldn't help but ask curiously, "Did Professor Lu… prove it?"

When Professor Fefferman heard this, he stopped writing.

He placed the thesis on the table and picked up his lukewarm cup of coffee. After a while, he replied thoughtfully, "I can't make a decision on something this important alone…"

Professor Fefferman looked at the thesis on his desk and paused for a second. He then continued to speak, "However, in my opinion, he probably did it."

…

After completing the proof of the existence of a solution to the Yang-Mills equations, Lu Zhou imported the content of the draft paper into his computer. After editing it, he sent it to the email of the editorial department of Annual Mathematics.

There was no hiccup at all; the thesis quickly passed the reviews by technical editors and went into the peer review stage.

Lu Zhou didn't know who the reviewer was. At least, he wouldn't know until the thesis was published.

However, that wasn’t important.

Before importing it into his computer, he already checked the entire proof process, he was more than 90% confident that his proof was correct. Regardless of what the reviewer thought, in his eyes, this problem was already solved.

Lu Zhou verified that the thesis had entered the peer review stage and then left it alone. He began his next research phase.

In fact, proving the existence of a solution to the holy grail Yang-Mills equations was only the first step. He was far from solving the entire problem. Before he could begin researching the Yang-Mills existence and mass gap, he had to find a general solution to this complex equation.

From a mathematical perspective, there was no doubt that finding a general solution was much more difficult than finding a proof of a general solution. Using his knowledge of the Navier–Stokes equations was not though.

Lu Zhou didn’t plan on going through another retreat before he had an idea of how to solve this problem. He had been searching for other people’s theses on arXiv to see if he could find some inspiration from other people’s research.

Unfortunately, the results weren’t ideal.

Even though the Yang-Mills equations played an important role in the modern gauge theory field, very few people did research on the general nonlinear partial differential equation solution. Even though there were some interesting ideas, the researches often weren’t deep enough.

This meant that he had to rely on himself for this part of the research as well…

The last Wednesday in April…

Lu Zhou finished his computational materials science lecture and walked out of the classroom while holding a textbook.

He was thinking about the Yang-Mills equations while walking toward the stairway. A middle-aged man shouted his name and ran toward him.

“Please wait a second, Professor Lu.”

Lu Zhou stopped in his footsteps and turned around. He had a suspicious look on his face.

“Who are you?”

The middle-aged professor panted and smiled as he said, “I’m Zhang Zhiongqing, from the physics department… We met in my physics class last time.”

“Oh yeah.” Lu Zhou immediately remembered this name. He then said cheerfully, “Professor Zhang, what’s up?”

Seeing that Lu Zhou still remembered him, Zhang Zhiongqing awkwardly smiled and said, “Here’s the thing, you gave my students a lecture regarding the strong interaction, right? A lot of students felt unfortunate that they couldn’t listen to your lecture. Quantum mechanics is also a very difficult undergraduate subject, and it requires a certain level of mathematical literacy. The physics department leaders had a chat, and we want to ask if you have time to give a lecture on quantum mechanics.”

“Oh, sure, no problem.” Lu Zhou smiled and said, “Is this Saturday good?”

Zhang Zhiongqing smiled and said, “Sounds good! The dean said that we can do it any time you like. Then it’s a deal! On behalf of the physics department, I would like to thank you.”

Lu Zhou: “No need to be so polite, I quite like giving lectures.”

Even though teaching undergraduate students couldn’t directly help him solve problems, it could give him inspiration, which he couldn’t get from his retreats.

Zhang Zhiongqing smiled and said, “After all, you’re so busy with research, and you’re still taking the time to teach undergraduate students, we’re very grateful…”

“Lu Zhou!”

A loud voice was heard from across the hallway, interrupting the conversation.

The two men stopped their conversation and looked toward the direction of the voice. They saw Academician Lu, who was wearing a gray coat, walking toward them.

Lu Zhou was surprised to see Academician Lu. He was about to greet him, but before he could speak, the old man asked excitedly, “You wrote that thesis?”

Lu Zhou was stunned.

“Which thesis?”

Academician Lu didn’t even catch his breath. “The proof of the existence of a solution to the Yang-Mills equations!”

Zhang Zhiongqing nearly choked on his spit.

Yang-Mills equations?!

*The f*ck?*

Chapter 612: Chaotic Month of April

It was the end of April.

Something big happened in the academic world.

In the latest issue of the Annual Mathematics journal, a forty-page long thesis regarding the proof of the existence of a solution to the Yang-Mills equations was published.

Once this news was confirmed, it caused a sensation in the international mathematics and physics circles.

This thing blew up on the internationally renowned mathematics forum “Math Overflow”.

[Did you guys hear? The existence of a solution to the Yang-Mills equations has been proved?!]

[I heard about it this morning, but this is still inconclusive, right?]

[It’s posted on Annual Mathematics, of course it’s conclusive. The reviewer is Charles Fefferman!]

[I haven’t finished reading it yet, and I don’t know much about L Manifold theory. If I want to understand the 2018 paper about the L Manifold, I’ll have to learn differential geometry first, what a pain in the a*s… Anyway, it’s very difficult to find mistakes in a big-name thesis like this. We’ll have to see what the final result is after the report conference.]

Because many of the modern young mathematicians, like Tao Zhexuan and Schultz, had their own accounts on this website, the Math Overflow trending page basically reflected the current trending events in the mathematics community.

The last time a discussion was this popular was two years ago, because of Sir Atiyah’s five-page thesis…

Professional academic forums weren’t the only place that blew up.

Even though most people didn’t even know how to write the Yang-Mills equations, most people knew about the Millennium Prize Problem.

Two days after the thesis came out, the news appeared on various news networks and attracted countless attention from people who were in and out of academia.

Compared to the rational discussions on Math Overflow, the Facebook and Twitter crowds were much more emotional.

[Lu Zhou? Lu Zhou is the author? If I recall correctly, he solved a world-class mathematics problem two years ago!]

[The Navier–Stokes equations! One of the seven Millennium Prize Problems! I still remember his International Congress of Mathematicians report!]

[Challenging two Millennium Prize Problems in the span of two years… Jesus, how does he do it?]

[And he also solved controllable fusion?]

[Haha, maybe this is the power of Asian mathematicians?]

[This is crazy!]

[…]

Ever since the Millennium Prize Problems were announced, there had been no shortage of challengers.

However, very few people achieved worthy results regarding the Yang-Mills equations.

If someone could prove the existence of a solution to the Yang-Mills equations through a mathematical method, then it wouldn't take long before someone could find a general solution.

Because this matter was so impactful, Nature journal, which usually paid very little attention to mathematics research, selected this thesis for a 200-word highlight on their latest issue. Nature even included an extract on the front cover.

During an interview with a reporter from Science, Professor Fefferman spoke highly of the mathematical methods used in this thesis.

"Very few people are able to reach a high level in more than three areas of mathematics. Not only was he able to do this, but he also integrated partial differential equations, differential geometry, and topology into a new mathematical tool."

Reporter: "Are you talking about the magical L Manifold?"

Fefferman: "Correct."

Reporter: "But some people commented that while he proved the solution existence of the Yang-Mills equations, he didn't create any new mathematical tools, he only re-used the tools that he created during his research on the Navier–Stokes equations… What do you think about this comment?"

The value of a mathematical proposition wasn't reflected in the proposition itself, but rather it was reflected in the mathematical tools that were created when solving the proposition.

If this paper only proved the solution existence of the Yang-Mills equations using mathematical language and couldn't pave a way for finding the general solution, even though it would still be an excellent achievement, it wouldn't be outstanding.

Fefferman: “I don’t think that is fair. The value of a mathematical conjecture isn’t manifested in creating new mathematical tools. It can also be manifested in the perfection of existing tools, or even just in an abstract mathematical concept.”

Reporter: “Do you think he strengthened the L Manifold theory?”

Fefferman: “That’s right, a theory often take five to ten years to mature, and it requires the accumulation of countless corollaries and theorems.

“By inventing the L Manifold, he successfully built a bridge between partial differential equations and differential geometry and introduced topological methods. If I were to describe it in laymen’s terms, he converted the equation into a geometrical object that exists in a special space.”

Reporter: “That’s so abstract, can you be more specific?”

Fefferman shrugged and said, “It’s like drawing an auxiliary line on an irregular image. After a special transformation, the originally complicated things become simple.”

Research: “But I noticed that there are very few people in arXiv who are following this research field. Even though my opinion might be misinformed, but if it is so important, why aren’t people paying attention to it?”

Fefferman: “The answer is simple. You can’t expect a two-year-old theory to become mainstream in the academic world. Even Grothendieck couldn’t do something like this. Forget about studying the theory in-depth, even learning the theory would take a certain amount of time… Not to mention, there is a certain threshold for learning this theory.”

Reporter: “So, you view highly of his work?”

Fefferman: “Yes, I believe that anyone who truly understands the thesis will agree with me.”

Reporter: “One more question, it’s not related to the Yang-Mills equations, and of course, you can refuse to answer.”

Fefferman smiled and said, “Ask away.”

Reporter: “Do you think he can become the greatest mathematician of this century?”

This was a very difficult question.

After all, the twenty-first century had only just begun.

Fefferman stared into the reporter’s eyes and thought for a bit. He then said, “It depends on whether or not the Riemann’s conjecture is going to be solved in this century, if not…”

He paused for a second.

“Then, there’s no doubt that he already is.”

Chapter 613: Letter From Clay Institute

When Lu Zhou submitted the thesis, he never thought that his Annual Mathematics thesis would cause such a sensation.

After all, that was only in-progress results, it was far from reaching the essence of the Yang-Mills equations. At most, he just took a step that others had not yet taken.

It wasn’t until Academician Lu kept asking him questions excitedly that he realized that the situation wasn’t as simple as he had thought.

The status of the Yang-Mills equations in the physics world was far higher than its position in the mathematics world.

For the mathematics community, it was just a difficult partial differential equation, but for the physics community, it was the first step toward the Grand Unified Theory, the holy grail of modern theoretical physics!

Therefore, even though it was a small step, it still shocked the entire world.

After all, ever since entering the 21st century, other than discovering some particles that had been predicted and verifying some pieces of the standard

model, there hadn't been any "new stuff" happening in the theoretical physics community.

Of course, theoretical physicists weren't the only ones that were shocked, those laymen who had heard about this news through various channels were also amazed.

In some sense, those laymen were even more excited than the experts.

Especially after Professor Fefferman was interviewed by the Science magazine… The interview pushed the popularity to its peak.

This was so popular that when Lu Zhou was eating in the cafeteria, he could hear students that were obviously not physics majors, looking at him and whispering something about him.

This was just the tip of the iceberg.

After his number theory class, he carried the textbook and left the classroom. A group of people then surrounded him at the door.

Lu Zhou didn't know where these reporters came from. They took out their cameras, microphones, and voice recorders before placing them right in front of Lu Zhou's face.

"Hello, Professor Lu, I am a reporter for Penguin news. It is rumored that you are challenging the Yang-Mills equations from the Millennium Prize Problems, is this true?"

Lu Zhou: "Yeah, and?"

"Professor Tao Zhexuan from the University of California once mentioned in his personal blog that the best way to solve a problem is to make Professor Lu become interested in the problem… What do you think about this?"

Lu Zhou: "Go ask him."

The reporter who was squeezed to the back of the crowd was able to stick a microphone in front of Lu Zhou.

"Annual Mathematics published your paper. Does that mean you have solved the Yang-Mills equations Millennium Prize Problem?"

When Lu Zhou heard this retarded question, he replied, “The proof of the solution existence is only an in-progress result, it doesn’t…”

“If the Clay Institute gives you the million-dollar bonus, how do you plan to spend this money?”

Lu Zhou: “???”

Don’t they know how to listen?

The microphones were shoved in front of his face one after the other, causing Lu Zhou to be overwhelmed.

Thankfully, Wang Peng responded quickly and stood in front of him.

Wang Peng’s arms weren’t particularly beefy, but he was able to carve a path for Lu Zhou to get out of the crowd.

Ten minutes later, the school security heard about the news, and a group of security guards in black jackets came to kick these people out of the school campus.

Lu Zhou finally got rid of the relentless reporters and escaped to the mathematics research building. He sighed in relief and sat down in his office chair.

Lin Yuxiang, who was studying for her National Public Servant Exam, noticed his tired expression. She got up and walked to the water dispenser.

When Lu Zhou opened his laptop and was about to start working, she walked over with a cup of coffee in her hand and smiled.

“Are you tired? I made you some coffee.”

“Thanks,” Lu Zhou took the coffee and replied politely.

“You’re welcome.” Lin Yuxiang smiled and said, “I used instant coffee this time, I don’t know if you’d like it.”

“Yeah, it’s pretty good.”

“Perfect.” Lin Yuxiang put her hands together and looked at him with puppy eyes. She then said flirtatiously, “Well then… If you like it, I’ll make it for you every day?”

From her past experience, when she said something like this with her puppy eyes, even females would get butterflies in their stomach, much less a loner that had never experienced love before.

However, while she was thinking about this…

Lu Zhou said, “You don’t have to make it every day, I’m not here every day.”

Lin Yuxiang: “…???”

Lu Zhou didn’t know if he said the wrong thing or offended her, but when Lin Yuxiang sat back down in a stiff manner, Lu Zhou felt like she seemed… frustrated?

Screw it, who cares.

Lu Zhou blew on his coffee cup before he took a sip. He put the coffee cup aside and opened arXiv. He then began to check the latest development in the research fields that he followed.

He had to admit that the theoretical physicists really were a lonely bunch.

He still remembered that for a few months after his 750 GeV discovery, arXiv exploded over this “mysterious particle” that was outside the standard model.

And the same was true now.

Various theses that included words like “L Manifold” and “Yang-Mills equations” began to pop up on the website.

What annoyed him the most was that after going through a couple of theses, he didn’t see anything notable.

In short, it felt like these theses were poorly written in a hurry, purely to contain the buzzwords…

Suddenly, a text bubble popped up on the lower right corner of the screen.

[Master, you have an email message!]

Email?

Lu Zhou saw Xiao Ai's pop up and raised his eyebrows. He then clicked on the link in the bubble.

The email was sent from the Clay Mathematics Institute, and the sender was Carlson, the Chairman of the Scientific Advisory Board of the Clay Institute. They were acquaintances, so of course he still remembered Carlson.

In the email, Professor Carlson expressed his courtesy and thanks for Lu Zhou's work. He also made a request. He hoped that Lu Zhou could present his proof to the international academic community in a report.

If Lu Zhou didn't have the energy to plan the report, the Clay Institute would be happy to help.

After Lu Zhou read this email, he thought for a bit. He then wrote a reply.

[I'll seriously consider your proposal.]

Even though he didn't have any intentions of hosting this report, after all, in his opinions an in-progress result wasn't worthy of a report. However, after he saw the rubbish theses on arXiv regarding the L Manifold, he felt like he should stand up and explain his theory to the world in a more detailed manner.

If he could attract a group of talented people into his field, it would greatly benefit his research.

At the very least, he would be able to find theses worthy of reference.

Lu Zhou was thinking about how he should go about doing the report when he heard a knock coming from his office door. He then saw Principal Xu walk in.

"Um, Professor Lu."

When Lu Zhou saw Old Xu's fervent expression, he paused for a second.

"What's up?"

Principal Xu smiled and said, "Nothing much, it's just that… You just produced such a great research result, according to the convention of the mathematics community, shouldn't you do a report or something?"

“This is a convention…”

Principal Xu immediately said, “Then what do you think about the big auditorium at the old campus?”

Lu Zhou immediately knew what the principal was talking about, so he smiled and replied, “That would be great, thank you.”

Principal Xu waved his hand and smiled.

“No worries, no worries! Oh yeah, what time do you think is appropriate?”

Lu Zhou thought for a bit before replying, “Let’s do it in May.”

Chapter 614: Can We Chat Properly

Lu Zhou didn’t really care about where the report was held.

For the stuff that was unrelated to academia, he would be happy for someone else to do it for him.

Normally speaking, an academic report was a very troublesome thing to host. Not only would one have to worry about the guests eating and sleeping, but they would also have to consider all of the possible unexpected situations that could happen. However, for Jin Ling University, this was the opposite.

Because of Lu Zhou’s international academic reputation and the reputation of the existence of a solution to the Yang-Mills equations in the mathematics and physics community, it was foreseeable that there were going to be many big names that would be attending this report session.

Being able to host an academic conference of this caliber was obviously beneficial for the school’s academic status.

Especially for a school that was interested in showing themselves on the international academic stage, they were more than happy to help Lu Zhou host this report.

The organization of the report became a top priority for the university. The administrative departments held several days of meetings, and they talked

about everything from the safety of the meeting to the placement of the water cups, to the dishes at the banquet.

Inside the principal's office.

Principal Xu found several teachers who were involved in administrative work to further discuss some of the report arrangements.

However, he suddenly heard a knock at the door.

When Principal Xu saw Academician Wang Shicheng at his office door, he paused for a second.

Wang Shicheng was the chairman of the China Mathematics Society, and he was one of the leaders of the mathematics community at Yan University. Even though Principal Xu wasn't a mathematician himself, he was still well aware of Academician Wang's reputation in academia.

Principal Xu immediately knew his intentions.

However, he pretended like he didn't know anything.

"Oh, Old Wang, what brings you from Beijing? You didn't even tell me you were coming."

Academician Wang Shicheng walked to the sofa and sat down. "I had a meeting in Jiangsu. After the meeting, I came here to look at my old friend. What? Am I not welcome?"

Haha!

You never talk to me normally, now you think of me as a friend?

Only a dumb*ss would believe you!

"What do you mean?" Principal Xu smiled and looked at his assistant next to him. "Xiao Yang, go and get Academician Wang a cup of tea."

"Okay."

Xiao Yang immediately stood up and walked to the cabinet. He then took out the tea set.

After the tea was ready, the two of them began to chat casually while drinking tea. The teachers that had administrative responsibilities were left aside. They looked at each other and didn't know what was going on.

Half an hour had passed by, and Wang Shicheng finally couldn't handle it anymore.

Even though he tried to divert the conversation to Lu Zhou and the Yang-Mills equations multiple times, Principle Xu would always quickly avoid the conversation.

He put down the teacup and looked at Principal Xu.

"Old Xu, to be honest, I came here to ask for help."

Principal Xu said, "Oh yeah?"

Wang Shicheng cleared his throat. He then said, "A while ago, Professor Lu published a thesis in Annual Mathematics, right? It's about the existence of a solution to the Yang-Mills equations. A lot of the professors in my department looked at it and felt that the thesis was very well written."

No sh*t.

Who doesn't know it's good?

Did you win a Fields Medal or a Crafoord Prize?

Principal Xu still smiled on the outside, but he didn't say anything.

Wang Shicheng continued to speak slowly, "But I'm sure you also know the rules of academia. For this type of major mathematics proposition, a thesis is not enough. Surely one would have to host a few report sessions and express their views to other scholars? This proposition can only be considered solved after answering all of the questions."

Xu Jian said, "Oh, what do you mean?"

Professor Wang Shicheng stopped hiding his intentions, and he said, "I don't mean anything… It's just that, Yan University wants to invite Professor Lu to do a report."

“Oh sure, this is easy, I’ll ask Professor Lu for you.” Xu Jian smiled and said, “If he agrees, then I’ll allow it. The second report session will be at Yan University.”

Academician Wang, who had a smile on his face, nearly vomited.

“This… isn’t appropriate, right?”

Xu Jian asked confidently, “What’s wrong?”

Wang Shicheng said, “This kind of important international event shouldn’t be done in Jinling, it should be done in Beijing.”

Xu Jian: “Oh, are you looking down on Jinling?”

Wang Shicheng slapped his thigh and said, “No, that’s not what I meant. I meant that Yan University has a higher status in the international mathematics community, and we have experience in organizing international mathematics reports. Let us do it, we can show the international community the sophistication of the Chinese mathematics world!”

Xu Jian said, “We also have experience hosting international academic conferences, and it’s also our duty to show the world the strength of Chinese mathematicians. Don’t worry about this.”

Wang Shicheng said, “Old Xu, you know the level of mathematics at Jin Ling University, so why are you fighting this?”

Plus, Xu Jian, you’re a computer scientist, why are you stepping into the mathematics world?

However, Xu Jian wasn’t happy. He didn’t slap the table, but he spoke impolitely. “Does Yan University have a Fields Medal?”

Wang Shicheng paused for a second and shook his head.

Xu Jian: “What about a Crafoord Prize?”

Wang Shicheng was muddled, and he shook his head.

Xu Jian said, “Oh yeah, we have both of them.”

Wang Shicheng: “…”

F*ck sake!

Can you just have a normal conversation with me?

Seeing how this conversation was going sideways, Wang Shicheng shook his head and stood up.

“Old man, you’re being unreasonable. I’m not going to talk to you. Where is Professor Lu? I’m going to talk to him.”

“Professor Lu is not here.”

“Where is he?”

Xu Jian rolled his eyes and said, “Don’t ask me, find him yourself.”

Wang Shicheng: “…”

After Wang Shicheng left Principal Xu’s office, Principal Xu looked at the muddled teachers inside the room.

Principal Xu then asked in a stern manner, “Did you hear what that old piece of crap said?

“He thinks we can’t do it!

“I repeat again, this report will affect the glory of Jin Ling University! It will affect our future!

“If anything goes wrong, I’m blaming it on you guys!”

Chapter 615: It’s the Same in My Opinion

Academician Wang had been an academic leader of Yan University for many years, and he had also served as the chairman of the China Mathematics Society.

He had quite a temper.

After he came out of the Principal's office, he didn't ask a professor for help. Instead, he asked a student and found his way to Professor Lu's office.

After Lu Zhou, who was sitting at his desk, heard Academician Wang's request, he stopped writing.

"Do a report at Yan University?"

"Yes." Academician Wang didn't hide his true intentions as he said, "The mathematics department at Yan University is much stronger than the mathematics department at Jin Ling University, both in terms of academic atmosphere and ability. This kind of world-class academic conference is a chance to showcase China's mathematics community to the world. It's also an important opportunity for Chinese mathematicians to integrate with the world. I know the report is yours, and you have the right to choose where you want to host it, but I hope you can look at the big picture and reconsider."

Lu Zhou smiled and said, "Can I ask you a question?"

Wang Shicheng said, "Go ahead."

Lu Zhou: "Do you think the window is important or the things inside the house are important?"

Wang Shicheng: "Of course I think the things inside the house are important."

"I think so too." Lu Zhou nodded and paused for a second before he said, "Whether or not the Chinese mathematics community can connect with the world, doesn't depend on how many windows or where the windows are. It depends on the things inside the house. I'm asking you to think about the big picture. I'm telling you that the location of the report itself isn't important. My research itself is the thing that is going to bridge the gap between China and the rest of the world."

Wang Shicheng's thoughts were blocked by Lu Zhou's words.

He opened his mouth and couldn't say anything. After a while, he said, "I don't understand."

Lu Zhou: "Don't understand what?"

Wang Shicheng said with a confused look, “I don’t understand why you don’t want to go to Yan University? Do you think it’s more realistic for Yan University to be the center of Asian mathematics or Jin University to be the center of Asian mathematics?”

When Lu Zhou heard this question, he smiled.

“Actually, there isn’t any special reason. This place is just my alma mater.”

Even though there were special reasons, he didn’t have to say them.

Why did Shiing Shen Chern choose Kai University? Why did Qiu Chengtong choose Shuimu? Wasn’t Yan University supposed to be better? It was actually the contrary. It was because Yan University was too strong; it already had too many mathematicians.

For something to change, it required a collision of academic ideas.

Lu Zhou was thinking about the long-term effect, hence, he didn’t choose to go to Yan University.

When he saw how shaken Academician Wang Shicheng was, he paused for a second before saying, “As for which one is more likely to become the center of mathematics…

“They’re both the same to me.”

…

There was still a month and a half until the Yang-Mills equations report, but the preparations for the report had already begun.

The preparations were stuff like preparing for the conference itself, as well as changing the school’s appearance, safety inspection work, and even renovating some old dorm buildings on the old campus. For example, when Lu Zhou was in the mathematics modeling competition, he lived in the infamous dorm building six. This time, the school leaders made up their minds and several dorm buildings were completely renovated. They even installed air conditioners in these newly renovated buildings.

Honestly, Lu Zhou felt a little shameful that Jin Ling University was taking this report so seriously.

After all, when he was still in Princeton, his reports were not this grandiose. Even his report on the Goldbach's conjecture was just hosted in the number 1 lecture hall.

However, he still understood why Principal Xu was doing this.

After all, the mathematics department at Jin Ling University had never produced such a major result before.

This was the closest the international theoretical physics community had ever gotten to the holy grail of physics, and it was also Jin Ling University's top international academic achievement. Whether the principal was doing it because of the results itself or because of Lu Zhou as a person, either way, it was worth it.

On the other hand, other than the school preparing for the report, Lu Zhou's three assistants were also getting busy.

Especially Assistant Lin, who was responsible for public relations. Normally, she had a lot of free time, but now, she finally had some stuff to do. She would run around the new and old campus with a pile of documents, but it looks like she seemed to be enjoying this?

Lu Zhou didn't understand what was enjoyable about this.

Regardless, since there were so many people organizing the report, Lu Zhou didn't have to worry about it himself. He continued to research the general solution for the Yang-Mills equations.

However, things were far more complicated than he had imagined.

His research wasn't even in a bottleneck. There was no bottle at all…

[F^i(μv)≡δμ·Av^i-δv·Aμ^i+g(f^ijk)·(Aμ^j)·(Av^k).]

[…]

"I have no idea how Mr. Yang and Mr. Mills were able to derive this equation." Lu Zhou crunched the paper in his hand and threw the paper ball into the bin.

The L Manifold was very useful for testing nonlinear partial differential equations, but it was quite limited when one used it to solve specific problems.

This was why Lu Zhou never thought about solving the Navier–Stokes equations.

Not because it was difficult, but because he knew he couldn't do it.

Han Mengqi walked to his desk and handed him the thesis she had just printed.

"Teacher, this is my thesis."

Lu Zhou stopped writing and briefly looked at the abstract and title of the thesis. He then raised his eyebrows with interest.

[A theoretical model of a semiconductor-electrolyte solution interface based on the Schottky barrier]

Seems like this chick is quite talented at computational materials.

After two months of work, she's able to write something of her own.

"Oh, put it here… I'll look at it later."

"Oh…" Han Mengqi nodded and hesitated for a bit. She then asked quietly, "Um… teacher, is there anything I can do to help?"

Lu Zhou paused for a second and smiled.

There really wasn't anyone that could help him.

However, he still had to stay humble.

"You can complete the task I gave you; that's the biggest thing you can do for me now."

In a sense, this was correct.

After all, the final reward for his reward mission, other than his lecturing quality, was related to the impact factors of his students' theses.

However, Han Mengqi obviously didn't know about the system. She felt a little down as she nodded.

"Okay then…"

If only I was stronger.

This way, I can actually be of use…

Chapter 616: Inspiration is Contagious

Jinling Institute for Advanced Study.

A laboratory inside the Institute of Physics was filled with smoke.

Sheng Xianfu smoked one cigarette after another as he looked at the design sketch on the table, which he had altered many times, and sighed. “Why do you think Professor Lu is suddenly studying the Yang-Mills equations?”

Li Changxia, who was reading theses next to him, shook his head and said, “I don’t know.”

Sheng Xianfu said, “Are we still doing fusion batteries or what?”

He gave up his director position at the Southwestern Institute of Physics to come here and research the miniaturization of controllable fusion with Professor Lu. However, it had been more than two months and the research project hadn’t progressed at all.

Not only did they stagnate, but Lu Zhou was involved in other projects now.

“I don’t know.”

Sheng Xianfu couldn’t help but say, “Can you say anything other than you don’t know?”

Professor Li Changxia scratched his head and made a helpless expression as he said, “Theoretically speaking, if we can establish a unified relationship between the strong interaction and the electromagnetic force… it will benefit our understanding of the nuclear fusion conditions.”

He sounded uncertain.

After all, he was an engineering professor. If anything, he was even more confused than Sheng Xianfu.

Sheng Xianfu looked at him.

“Then what? How long do you think it will take for this theory to be put into a piece of real technology. Also, who cares if it deepens our understanding of the fusion reactor, is it going to make the fusion reactor better?”

Li Changxia sighed and said, “But we have no other option.”

Sheng Xianfu didn’t say anything this time.

He was correct.

They couldn’t do anything else.

They had designed at least a dozen solutions for solving the problem of the reactor heat dissipation. However, there wasn’t a single solution that could pass the technical feasibility test. Even in the case of the best solution, the reactor melted after 34 seconds of operation.

“Perhaps the idea of using a high-temperature fusion ignition itself is wrong.” Sheng Xianfu pondered for a while. Suddenly, he said, “Maybe like you said, if we can find a way to reduce the temperature conditions of the fusion reaction, our work might become a lot simpler.”

Professor Li Changxia tapped his cigarette and smiled. He shook his head and said, “I think that the idea of putting controllable fusion technology into a spacecraft is impossible.”

They went silent for a while.

Sheng Xianfu looked at the design sketches on the table, and suddenly, he sighed and reached out to press the cigarette butt into the ashtray.

“I’m going to find Professor Lu.”

He scrunched the paper into a ball and stuffed it in his pocket. He then stood up from his chair and walked out of the laboratory in an imposing manner…

…

When Sheng Xianfu arrived at Jin Ling University, Lu Zhou was giving students a lecture in the classroom.

More specifically, a quantum mechanics lecture.

Sheng Xianfu quietly walked into the lecture hall through the back door. When he saw the crowd, he couldn't help but feel amazed.

When he was teaching at the Fuyang Institute Construction Material Laboratory, he also served as a lecturer for the nearby University of Science and Technology of China. However, even though his classes were about controllable fusion and plasma physics, his classrooms had never been more than 50% full.

Of course, that was because controllable fusion was unpopular at that time, and not a lot of people took his class…

Sheng Xianfu didn't interrupt Lu Zhou's lecture. Instead, he found a seat in the back row and sat down. He then listened to the lecture and waited patiently for it to finish.

When he walked into the classroom, the lecture seemed to have been almost over.

During the Q&A session, a student raised his hand and asked, "Professor, can you tell us about how to understand the Yang-Mills equations from a mathematical perspective?"

When this question was asked, it immediately received approval from the other students.

It was obvious that the physics students were all interested in this topic.

"With your current level of physics knowledge, it would be too difficult to understand this question." Lu Zhou smiled at the student who asked the question and said, "If you are interested, you can go to the old campus on May 20th and listen to my report. I'll explain it in detail during the report."

Someone in the audience complained, "But the entry requirements for the report is too high."

This was indeed a problem.

For an international academic report like this, the barrier of entry wasn't only for the report presenter, but also for the report attendees.

When Lu Zhou heard the complaint, he contemplated it for a bit. He then smiled and said, "Then I'll explain it right now."

Lu Zhou cleared his throat and composed himself.

"If you want to understand the Yang-Mills equations from a mathematical perspective, we first have to know what it is.

"In a nutshell, the non-abelian symmetry group given by the Yang-Mills equations is a special type of gauge theory. Classically, this theory is similar to Maxwell's theory, which replaces the more general tight gauge group G in the Abelian group U(1)…"

When it came to mathematics, talking wasn't enough.

Lu Zhou picked up a piece of chalk and began to write on the blackboard.

[If 0=dA∗F, we can derive from the variation of the Lagrangian operator for passive Yang-Mills field: L=1/4g2·∫Tr(F'∗F)…]

[…]

The proof of the existence of a solution to the Yang-Mills equations was way beyond an undergraduate student's level.

Even if Princeton professors wanted to understand the theory, they would have to start from learning the L Manifold first.

The things he was writing on the blackboard were just explanations regarding the Yang-Mills equations itself.

The most he did was incorporating some of his own ideas while explaining this proposition.

Just like this, more and more calculations appeared on the blackboard.

Lu Zhou went into a state of concentration and couldn't stop, and he gave fewer and fewer explanations.

The students in the lecture hall were muddled.

In the beginning, they could kind of understand it, but now, they were totally defeated by this esoteric theory.

Later on, even the professors from the physics department weren't able to keep up.

What is this guy writing about?

The more they read, the more they felt like…

Lu Zhou didn't even seem like he was writing about physics?

Is this guy really talking about the Yang-Mills equations?

A lot of muddled professors were looking at the blackboard, and they began to have doubts about their lives.

Academician Lu was sitting in the front row of the lecture hall with a frown.

Suddenly, he noticed an important line on the blackboard, and his pupils dilated.

"The non-zero asymptotic constant in a vacuum state converts the normative group into U(1) subgroups!"

Lu Zhou is trying to use a mathematical method to explain the strong interaction in the Yang-Mills existence and mass gap!

Academician Lu's eyes were filled with excitement.

He looked at the blackboard, full of expectations. However, when Lu Zhou wrote the final line, he seemed to have failed his expectations.

Lu Zhou suddenly stopped writing and took a step back. He looked at the calculations on the blackboard and went silent for a long time.

It seemed like he was stuck.

He scratched his head and threw away the chalk. He then turned around and looked at the muddled students before he said embarrassedly, "My bad… I seem to have gone off the rails."

The physics professors were so full of expectations that they nearly spat out blood.

*F*ck!*

*At least f*cking finish the calculations!*

However, Professor Sheng Xianfu, who was sitting in the back row, was different from the other professors. His eyes began to light up.

Even though he didn't understand the content of the lecture itself, he received an unexpected moment of inspiration.

"As long as the distance between nuclei is small enough…"

He muttered to himself as the inspiration flashed through his mind.

Even though this sounded a bit crazy, but he might have thought of a feasible controllable fusion reactor model.

If this was theoretically possible…

Maybe they could really achieve a new type of nuclear fusion energy at a temperature of less than 100 million degrees…

Chapter 617: Thinking About the Same Thing

The term "cold fusion" was a very awkward term in academia because it often didn't have any interesting connotations attached to it.

This concept was first introduced in the 1920s. Two German chemists Panis and Peters proposed in 1926 regarding the idea of nuclear fusion at room temperature. They found helium permeate the asbestos by passing hydrogen through the heated palladium asbestos. They then confirmed that the fusion reaction occurred and published the research in Nature.

Once this thesis was published, it immediately caused a huge sensation. However, it was quickly criticized by Rutherford, the then president of the Royal Society. Actually, in the follow-up experiments, the two were not able to

repeat the success of the experiment. Finally, the whole incident was identified as a mistake, and Nature retracted the thesis.

The end of the 1980s was probably the most popular period of cold fusion research. During a press conference at the University of Utah in Salt Lake City, Utah, Fleischman and Pons published their latest research—which was about the continuous nuclear fusion on a palladium electrode with a special heavy water electrode machine at room temperature.

This discovery broke through the traditional impression that nuclear fusion could only be conducted at hundreds of millions of degrees of temperature. This also made controllable fusion researchers, who recently hadn't made any significant progress, see a light at the end of the tunnel. The sensation generated by this event quickly swept across North America and the world, including Lawrence Livermore National Laboratory, Princeton PPPL, Brookhaven National Laboratory, and a dozen more research institutions. Even IBM's private labs were involved in this race to chase this new kind of energy. The media referred to the research results as "a sun inside a test tube".

However, the good times didn't last for long. The US nuclear power giant and the University of Utah experimental team signed a cooperative research and development agreement, while the Italian Ministry of Science and Technology prioritized "cold fusion research". The Office of the Secretary of State for Scientific Research in Belgium held a special meeting with a team of experts. Moscow University in the Soviet Union organized a world-class research team, which was ready to begin research on cold fusion… After all this initiative, it took less than a year for the cold fusion world to die down again.

This world-wide failure completely diminished the academic community's enthusiasm for cold fusion. A few research teams were still persistently researching in this field. However, even thermonuclear fusion research had been dead for a long time, much less the unpopular cold nuclear fusion.

As of now, the attitude of the entire academic community was to put aside this field, but not completely deny its possibility. However, no one had hope of ever achieving cold fusion.

As for whether or not there was a feasible technical route…

Strictly speaking, it actually existed.

Like “sound fusion”.

However, even that didn’t sound reliable.

Sheng Xianfu left the venue and didn’t go look for Lu Zhou. Instead, he went to the Jin Ling University Institute of Acoustics.

At the end of the 1980s, all of the countries around the world tried to do research on cold fusion. China, who was closely watching the movement of the international academic community, was no exception. For example, the research team led by Professor Chen Weizhong from the Institute of Acoustics of Jin Ling University tried to research “sound fusion”, but unfortunately, he failed.

The current conclusion was that fusion was impossible, but it could emit light.

However, people were still uncertain why exactly it could emit light.

Before he could complete the blueprint, he had to seek some help from the research of his predecessors…

“The data from the cold fusion experiments more than 30 years ago?” said Professor Chen Weizhong after he listened to Sheng Xianfu’s explanation. He sneered and shook his head before saying, “You are wasting your time.”

Sheng Xianfu tried to convince the old man. “How can we know if we don’t try?”

“Try? I spent ten years of my life trying. I proved that this research path isn’t going to work, and I didn’t do all that work just so that you can try again later.” Chen Weizhong smiled and said in a sarcastic tone, “I wasted half of the institute’s budget, and I all got was a pile of useless papers. You’re asking me to let you waste more time and more state resources to do this experiment? My morals won’t allow this.”

It seemed that this old professor had completely given up on sound fusion.

But this was justified given how he had spent a decade trying to walk a path that was unfeasible. Not only had this disappointed his own career and scientific research goals, but it had also disappointed the students and researchers who helped him in his research.

However…

“I don’t think the data is useless.” Professor Sheng Xianfu stared into the old professor’s eyes and said in a serious manner, “It’s just that it hasn’t been applied yet.”

The old professor stared at Professor Sheng Xianfu for a while and didn’t say anything. He stood up slowly and left the office.

After five minutes, the old man walked back into the office carrying an old notebook.

“The Institute of Acoustics didn’t have a large budget when I began this project. I was hoping it could make some achievements… but I failed.” Professor Chen Weizhong calmly handed this notebook that was filled with data to Sheng Xianfu. Professor Chen Weizhong looked at Sheng Xianfu and said, “If this stuff can help you even just a little, go ahead.”

If it could really help someone…

The old professor felt like he would feel better in his heart.

Sheng Xianfu took the notebook and nodded solemnly as he said, “I will use it properly.”

…

After Sheng Xianfu got the experimental data, he went back to the Jinling Institute for Advanced Study and began to sketch out the blueprint.

When he was in Southwest, he was studying plasma physics and was more engineering rather than theory-oriented. Now that he suddenly had to do research in the theoretical field, he was obviously struggling.

He hadn’t read up on a lot of things for a long time, and he had even forgotten most of it. Therefore, in addition to reading the current literature, he even had to resort to reading textbooks in order to complete his theoretical deductions.

Fortunately, these difficulties could be overcome.

It took ten days for him to both study and research at the same time. He finally finished his latest paper, “The Technical Feasibility of Achieving Fusion

Reaction at a Relatively Low Temperature". He took this paper and went to Lu Zhou's office.

When he arrived at Lu Zhou's office, Lu Zhou was thinking about something while staring at a piece of paper on his desk.

Sheng Xianfu gently knocked on the door. "I'm here."

Lu Zhou didn't stop writing. He simply said, "Yeah, what's up?"

"I have some stuff about the miniaturization of controllable fusion… Some thoughts." Sheng Xianfu looked at the thesis in his hand and was about to hand it over to Lu Zhou. However, he was somewhat hesitant.

"Do you not want to show it to me?"

"Not that." Sheng Xianfu smiled awkwardly and made up his mind. He placed the thesis on the desk and said, "It's just that… Don't laugh at me after you read it."

"Of course I won't."

Lu Zhou picked up the thesis on the table and began to carefully read it.

Time slowly passed by.

Sheng Xianfu, who was standing in front of the desk, patiently waited. He took a deep breath for the tenth time.

When Lu Zhou finally finished the thesis, he smiled and said, "You're quite imaginative."

Sheng Xianfu had a bitter smile on his face.

Didn't you say you weren't going to laugh at me?

He coughed and began to explain, "I am quite imaginative, so don't take it seriously, I was just randomly brainstorming…"

"Don't think you're wrong. Academic discussions shouldn't have the premise of right or wrong. We all can make mistakes, or we can be correct." Lu Zhou gently placed the thesis on the table and said, "Not to mention, we thought of the same thing this time."

Chapter 618: I’m the Only One Who Can Do This

Sheng Xianfu was stunned.

When he sent out his thesis, he made some mental preparations in case he was ridiculed for it.

However, he didn’t expect that his futuristic vision to be recognized by Lu Zhou.

“Cold nuclear fusion isn’t a ridiculous concept. Actually, for most concepts that we are not able to achieve, the concept itself isn’t wrong, we just don’t know enough about the universe.”

Lu Zhou stood up from his desk and walked to the solar system framed picture that was hanging on the office wall. He looked at the ball of flame that had been burning for billions of years.

“Just like how we don’t fully understand the source of a star’s power…”

Technically, the fusion reaction inside a star was also a form of cold fusion, but it wasn’t the kind of “cold” that people could understand.

In order to achieve nuclear fusion, two protons must have sufficient energy to overcome the Coulomb potential barrier so that the distance between the nuclei would be less than 10^-14 meters. In order to reach this distance, the thermal kinetic energy of a single nucleus must reach at least an energy level on the order of MeV magnitude.

However, the average thermal kinetic energy of a nucleus inside the star was only on the KeV magnitude.

Comparing the magnitudes of energy level, one would expect that the thermal kinetic energy was too low to overcome the Coulomb potential barrier. Even considering the effect of gravity, the reaction inside the star didn’t make sense.

It would be very difficult to explain this phenomenon from a classical mechanics perspective.

Therefore, one would have to introduce quantum mechanics concepts.

Like, the quantum tunneling effect.

Even though this concept might sound a little obscure, as long as one understood the principle of wave-particle duality and the uncertainty principle, it wouldn't be too difficult to understand this implication.

In quantum mechanics, all objects were in indeterminate states, and there was a range that determined their states.

For example, a small ball, a common classical mechanics example. Place the small ball in front of a mountain. According to the concepts of classical mechanics, when the speed of the ball was large enough, it could roll across the mountain. If it was not fast enough, it might roll to the middle of the mountain and run out of kinetic energy, thus going back to wherever it came from.

However, in quantum mechanics, even if the speed of the ball was small, when it rolled toward the mountain, it still had a certain probability of rolling up and across the mountain.

If we were to change the mountain into a barrier and replace the ball with an atom, we could explain why fusion was able to occur in stars.

Even though the energy of the nucleus in a star was much smaller than the potential of the Coulomb potential barrier, due to the existence of the quantum tunneling effect, the proton could still pass through the Coulomb potential barrier. With a barrier of this kind of probabilistic combustion, a star could burn steadily for billions of years, as opposed to exploding in an instant, thus exhausting all of its fuel.

"Cold nuclear fusion is actually theoretically possible, or more scientifically, when the macroscopic conditions for fusion are not met, it is still theoretically possible for the fusion reaction to occur. However, we don't have a suitable method to advance our theoretical knowledge to fully reveal the mystery.

"We want to solve the miniaturization of the controllable fusion energy problem, and we have to start from the basics. We have to understand what the strong interaction is and use a model to unify it with the electromagnetic force." Lu Zhou handed back Sheng Xianfu his thesis and paused for a

second. He then said, “If we can use a model to unify the strong interaction and electromagnetic force, our problem will become a lot easier.

“Actually, I haven’t given up on the miniaturization of controllable fusion.

“The thing is, I’m the only one who can advance our theoretical knowledge.”

…

Lu Zhou had made some progress with regards to the general solution of the Yang-Mills equations. However, the main difficulties were still unsolvable. He wasn’t too worried. After he was done with the report, he would have plenty of time to think about this problem.

Time quickly passed by. Soon, it was May.

Lu Zhou had finished his computational materials science and number theory classes. He was waiting for his students’ theses to be published so that he could finally receive his system rewards.

Interestingly enough, he found out that this reward mission had more freedom than the previous missions. He didn’t even have a time limit for the completion of this mission. In theory, if he wanted to, he could make it so that his students’ theses would have sky-high impact factors, and after that, he could collect the mission rewards.

However, it wasn’t interesting to drag this mission on for any longer.

Every impact factor gave 1,000 experience points and 10 general points. Even if one had a hundred impact factor, that was only a hundred thousand experience points.

This obviously wasn’t possible.

Lu Zhou made up his mind that he would complete the mission before June, no matter how many theses his students had. If there really wasn’t enough time, then whatever. He had been resting for six months; it was time to begin another mission.

Three days before the report, Professor Klaus von Klitzing from Germany arrived in Jinling. He bumped into Lu Zhou, who had just finished his last computational materials lecture, at the laboratory building of the new campus.

“Long time no see.” Professor Klitzing gave Lu Zhou a warm hug and smiled as he said, “I didn’t think that in less than two years, your name would be giving the Nobel Prize Committee a headache again.”

Lu Zhou smiled and said, “Maybe.”

“It’s not maybe. Regardless of whether or not they would choose a scholar who had just won a Nobel Prize, I’ll still nominate you.” Professor Klitzing smiled and said, “Speaking of which, before I came to China, Professor Keriber told me to tell you something.”

“Uh, what thing?”

“He said you’re a scary opponent.” Professor Klitzing shrugged and said, “He said that his biggest regret in life is showing off his laboratory to you. Thanks to you, he’s been ridiculed by the economic and technology department. The technology department saw that you waved your hand and solved the controllable fusion problem, so they thought that controllable fusion was actually a very simple thing… Apparently, in their latest meeting, the Wendelstein 7-X engineers nearly started a fight with the secretaries from the technology department.”

Lu Zhou awkwardly coughed.

“Um… My apologies. If he doesn’t think that I’m being fair, I can let him visit the Jinling Institute for Advanced Study.”

“Haha, I’m just kidding.” Klitzing patted his shoulder and said, “He doesn’t hate you… He’s actually quite thankful. After all, without your plasma turbulence model, the research on the stellarator would still be stagnated. Not to mention, if his laboratory achieved nuclear fusion first, I’m sure he would have made the same decisions.”

Lu Zhou made a helpless expression and said, “I hope my research won’t bring him more trouble.”

“How could it? Also, we might have the opportunity to cooperate in the future.” Klitzing smiled and said, “Several members of ITER have already reached an agreement with China on the exchange of many technologies. The agreement will be implemented in maybe five years.”

Lu Zhou nodded.

Five years was a good buffer period.

Other countries weren't certain if they could solve this problem on their own, so they were reluctant to exchange their chips too early. On the Chinese side, they also didn't want other people to achieve controllable fusion and lose their dominance in this field.

Of course, this was all because everyone knew that it was impossible to keep a technology secret.

Especially for civilian technology such as controllable fusion, which was destined to be implemented on a large scale. The only thing the government could do was to lock the technology in a basement and never implement it. Once controllable fusion technology was wide-spread, the secrets were bound to leak out.

In three to five years, controllable fusion power stations could supply more than 80% of the country's electricity consumption. The decision to exchange political, technical, and other interests with other countries for controllable fusion technology in five years was the optimal strategy.

However, a lot of things could happen in five years…

Chapter 619: From All over the World

During the middle of May, the atmosphere of Jinling was somewhat unusual.

As the report date was getting closer and closer, scholars from all over the world flew to Jinling. This city, which had never had an international academic culture, had become more and more popular as an academic hotspot.

After Jin Ling University announced the report, whether it was the hotels that provided accommodation or the municipal government of Jin Ling City, they all took this matter seriously. From the cleaning up of the streets to coordinating traffic, the city government had given the green light on things that were outside of Jin Ling University's control.

After all, this kind of world-class academic conference attracted more than a thousand scholars and was the center of attention of the physics and mathematics communities. This kind of event only happened once every few years. Being able to host a report like was an honor for the school, and it was also an opportunity for Jin Ling City to present itself to the international community.

It wasn't just about the reputation of the city, it was also about politics; they all had to take this event seriously.

At the entrance of the InterContinental Hotel.

An old man, who was wearing a black jacket, carried his suitcase up the stairs and stood at the hotel entrance. He then looked at his watch. A man in a gray suit walked out of the hotel elevator and greeted him.

When Faltings saw the person walking out of the hotel elevator, he raised his eyebrows.

"I didn't expect you to come here first."

Klitzing smiled and said, "You're too slow, I've been here for two days already."

Faltings: "Have you met him?"

"Yeah, I went to Jin Ling University yesterday to meet him. It seemed like he's doing well. He took me to visit the Institute for Advanced Study and some other interesting places nearby." Klitzing paused for a second and said, "Arriving early is a good thing."

Faltings' expression didn't change as he said, "You know I don't care about those kinds of things."

Klitzing shrugged and said, "I know, I also care about what you care about. But the report is going to start tomorrow. Let's wait until tomorrow to think about these troublesome matters."

Faltings felt like Klitzing made sense, so he didn't say anything else. He carried his suitcase and went into the elevator with Klitzing.

The entire hotel was booked just for the three-day [a]report. Theoretical physicists and mathematicians from all over the world were living here.

On the way to his hotel room, people constantly greeted Faltings, who nodded in response. He was quite surprised, especially when he saw Professor Sarnak from Princeton and Andrew Wiles from Oxford University.

“I didn’t expect to see so many old friends here.”

“After all, this question has troubled the mathematics and physics community for a long time.” Klitzing smiled and said, “We all want to know the answer.”

Faltings: “That’s not what I meant.”

Klitzing raised his eyebrows with interest.

“Oh yeah?”

“Mathematics is getting younger.”

Faltings paused for a second and muttered to himself, “This a good thing.”

…

The day of the report.

The crowd was packed into the grand auditorium at the old campus of Jin Ling University.

Professor Deligne wore a black hat, which covered his shiny head, and a black jacket. He walked to the third row in the venue and sat next to Edward Witten.

“Aren’t you doing a report at CERN? How come you have the time to come all the way to the other side of the Pacific Ocean?”

“I heard there’s an interesting report going on, so I came.” Witten smiled and said to his old friend, “Plus, my research partner Professor Wilczek suddenly stopped his work and insisted on coming here. I didn’t want to stay in Switzerland alone, so I thought it would be better to come. How about you?”

“I mean he is my student…” Deligne noticed Witten’s look of surprise, and he asked, “What?”

Professor Witten coughed and said, “Nothing, I forgot that Professor Lu even studied algebraic geometry.”

Deligne: “…”

The front of the auditorium wasn’t the only busy place. On both sides of the auditorium were people who were responsible for maintaining the order of the conference. There were also logistical workers who had been working since 6 am.

Every great event had countless people working behind the scenes.

In order to do a good job of organizing this conference and not get laughed at by Yan University, Principal Xu personally came to the venue to command the logistics staff. Dean Qin was also working hard. In fact, he was even more nervous.

Even though he wasn’t the one giving the report, his hands were still drenched in sweat.

This was the first time that Jin Ling University’s mathematics department stood on an international stage; it was their first time facing the world.

One could say that not only did this report affect the future of the mathematics department, but it also affected the future of Jin Ling University…

There was only half an hour left until the report.

Lu Zhou’s quiet green room was in contrast with the loud venue. He quietly sat at the table. He was calculating something while writing on the draft paper.

He heard footsteps from outside the door.

Lin Yuxiang gently knocked on the door and walked in. She was wearing a red dress.

“Professor, it’s about to begin.”

Lu Zhou twirled his thumb around the ballpoint pen and looked up at the chandelier on the ceiling. He then stood up.

“Okay, got it.”

Lin Yuxiang saw that Lu Zhou was walking to the closet, and she said, “Do you need me to help tie your tie?”

“No.”

Lin Yuxiang sighed.

Even though she knew he would say this, the way he refused her wasn’t euphemistic at all…

Lu Zhou picked up the suit from the closet and put it on. He walked in front of the mirror and looked at himself.

After he confirmed that he was still a handsome fellow, he tightened his tie and walked out the door.

Han Mengqi was standing near the entrance of the green room. When she and saw Lu Zhou walk out of the room, she cheered, “Teacher… You got this!”

“Yeah.” Lu Zhou nodded and casually said, “Of course I do.”

[a]is it a three day report? previous sentence seems like so

Chapter 620: The Chalk That Stopped Writing

The lights were turned on.

Lu Zhou steadily walked onto the auditorium stage.

The second he walked to the microphone stand, the noise died down, and the venue instantly became quiet.

As Lu Zhou stood on the stage and looked around the venue, he felt ice in his veins.

This wasn’t his first report session.

It also wasn’t his first time challenging a world-class problem.

Lu Zhou reached out and adjusted the microphone stand. He then said in a clear voice, “Thank you all very much for taking the time out of your busy schedules to come here. I won’t waste any more of your time, let’s get straight to the point.”

After the opening remarks, Lu Zhou paused for a second and continued, “I’m sure you all have read my thesis before coming here. I will briefly repeat the proof process and explain in detail my thought process for this proof.

“I’m sure that after my explanation, there will no longer be any confusion in your minds.

“If there are any questions, feel free to ask during the Q&A session.”

The PowerPoint on the projector screen flipped to a new page, showing everyone the lines of formulas.

[F^i(μv)≡δμ·Av^i-δv·Aμ^i+g(f^ijk)·(Aμ^j)·(Av^k).]

[…]

“When we set a Schwarz non-dispersion vector field μ0 to the equation and set the time interval I ⊂ [0, + ∞), we can then define a generalized solution N9 of the Yang-Mills equations as an integral equation μ, ie μ→ H10df (R3)…

“It is difficult to solve this nonlinear partial differential equation using conventional methods, and it’s also difficult to prove the existence of its solution. We must introduce a three-dimensional manifold and bridge the gap between the dimensionless equations and geometric principles by introducing topological ideas…”

Lu Zhou picked up a piece of rather long chalk from the desk and walked to the blackboard. He then began to write.

In the crowd.

The first row.

As Academician Lu looked at Lu Zhou who was writing on the blackboard, he felt emotional.

“This is incredible.”

Professor Tang was sitting next to him. He smiled and asked, “What is incredible?”

Academician Lu didn’t answer this question. Instead, he began to reminisce.

“Five years ago, at CERN’s European Nuclear Research Conference, I had a disagreement with him regarding the 750 GeV energy characteristic peak. My opinion was that the signal could be a two-photon signal produced by the gluon during polymerization. He insisted that there might be something beyond the standard model.”

“Then what happened?” Professor Tang smiled and asked, “Was he correct or were you correct?”

“There wasn’t a conclusion.” Academician Lu shook his head and said, “CERN did research on his discovery for an entire year, and the theoretical physics community also paved a way for this new particle for an entire year, then… It was almost like the universe was fooling us, some said that it’s quantum fluctuations, others said that it’s a two-photon signal generated by the polymerization of gluons… But this isn’t the main point.”

Academician Lu paused for a second and smiled. He said, “Being able to stick with your opinions when challenged by a higher authority is a rare personality trait, especially for students that have been trained in our education system. This quality is extremely commendable. Ever since then, I knew this kid was going to make something of himself. I didn’t expect that I actually underestimated him. I can’t believe he’s gotten to this point in just five short years.”

That last sentence finally answered Tang Zhiwei’s question.

He just thought that with Lu Zhou’s talent and hard work, he was bound to earn a place in the mathematics world as well as the physics world. However, he didn’t expect that in these five short years, not only did he become stronger, but he also made Jin Ling University, as well as the Chinese academia, stronger.

Professor Tang smiled. “Yeah…

“He’s the fastest-learning student I have ever seen before.”

The report continued.

After the part about the L Manifold finished, Lu Zhou quickly accelerated the speed of the report.

The thesis was forty pages long, and the main proof process was at least twenty pages.

If he didn't want to leave the Q&A session to the afternoon, he had to finish speaking within two hours.

As Lu Zhou's reporting speed gradually increased, the scholars in the venue intently stared at each line of equations. They didn't want to miss a single detail or a single letter.

For people like them, they didn't have to worry about not understanding the report. At most, they just didn't have the time to leisurely talk with their peers while listening to the report.

The PowerPoint pages were shown one after another.

There were more and more equations on the blackboard.

Lu Zhou completely forgot about where he was, and he had completely forgotten about the audience behind him. He had entered the "zone", where all of his attention was focused on the chalk and the half-filled blackboard.

While writing and explaining, Lu Zhou also organized his thoughts regarding the proof of the existence of a solution to the Yang-Mills equations.

While he was organizing his thoughts, new inspirations and ideas were also brewing in his mind.

It was the 36th page of the thesis.

The report was about to end.

Professor Klitzing could finally take a break since he had already grasped the essence of the proof process. He looked at Professor Faltings, who was sitting next to him, and asked, "Amazing proof… What do you think?"

Faltings stared straight at the lines of equations on the blackboard, and he seemed to be analyzing something. He didn't speak for a long time.

Before he came to China, he studied the L Manifold and the proof of the existence of a solution to the Yang-Mills equations. He also talked with several PhDs that were in this field, who were from the Max Planck Institute for Mathematics. However, he still had some doubts regarding some details.

However, most of his questions had already been answered.

Five or six minutes had gone by… He looked at the PowerPoint presentation. After that, he looked at the blackboard. He then said with a poker face, “He answered some of my doubts… but not all of them.”

Professor Klitzing chuckled.

Since Faltings said so, I’m guessing there are no problems with the proof.

However, when he was waiting for Lu Zhou to finish so that he could stand up and give him a round of applause…

Lu Zhou suddenly stopped writing.

Chapter 621: I Solved It

The chalk on the blackboard stopped moving.

The explanation from Lu Zhou also stopped.

Everyone in the audience was stunned.

Lu Zhou’s hands hadn’t stopped writing for the past hour, and now that he suddenly stopped, everyone felt a little uncomfortable.

However, everyone knew that when someone was in an unusual environment, they were bound to perform worse than usual. Some people even witnessed old professors dozing off while reporting. Also, this was a major mathematical proposition. Not only did it test the reporter’s mathematics level and articulation ability, but it also tested the reporter’s mental endurance.

Everyone waited in silence.

However…

10 seconds passed.

5 minutes passed.

Lu Zhou still stood still on stage. He stared at the blackboard like he was thinking about something.

Seeing how he didn't react for a long time, the audience began to worry.

Why hasn't he moved yet?

Is he stuck in his train of thought?

Or did he… realize he made a mistake?

A lot of people looked like they were gloating, while others looked like they were concerned. After all, making a mistake during a major mathematics conjecture report was possible. It wasn't like everyone could be correct every single time.

However, no one thought that an issue would arise during the reporting stage, as opposed to the Q&A session.

This almost felt like…

Lu Zhou used his own logic to tie himself to the floor.

The reporters standing behind the auditorium noticed the commotion in the audience. They felt like something big was going to happen. They secretly pointed the camera lens at Lu Zhou to get a close-up of his facial expression.

Laymen always liked to watch accidents happen.

Principal Xu and Dean Qin, as well as several other teachers who were also in the venue, started to sweat. The staff members near the stage were even more helpless; they didn't know if they should inform Lu Zhou of the time or just stand there and wait.

Dean Qin clenched his fists as he mumbled, "What is he doing, isn't he about to prove it?"

He had read the thesis, and he understood the thesis. With just a few more steps, he could prove the solution existence of the Yang-Mills equations. He didn't know if Lu Zhou forgot or something, because Lu Zhou just stood there and… started to daydream?

Han Mengqi, who was standing at the corner of the venue, watched Lu Zhou on stage. She clenched her right hand and silently prayed for Lu Zhou.

Lin Yuxiang, who was standing next to her, looked like she just realized something. She smirked and looked a little mischievous.

In the audience.

Academician Wang Shicheng was sitting in a corner of the venue. He stared at the blackboard and frowned.

The proof process was correct.

The rest of the proof should be easy. It would only take one more sentence to finish the proof. Lu Zhou just had to finish the PowerPoint presentation and begin the Q&A session.

For an internationally-renowned scholar, people wouldn't ask him to clearly prove every step. He only needed to answer some of the more controversial steps.

While Academician Wang was thinking about the proof process, the man wearing glasses, who was sitting next to him, asked, "Is he… stuck? This is going to be embarrassing for Lu Zhou."

Wang Shicheng stared at him and quietly said, "Shut up."

The man immediately shut his mouth.

After all, Wang Shicheng used to be the chairman of the China Mathematics Society. Even though he wasn't famous in the international academic community, he was still quite famous, domestically speaking.

On the other side of the venue.

Professor Witten stared at Lu Zhou on the stage and looked at Professor Deligne.

“Is there a problem?”

Deligne’s eyebrows furrowed. He didn’t say anything.

Fefferman’s eyebrows were also furrowed, as if he was thinking about something.

As for Wiles, he wasn’t worried at all. He heartlessly smiled and happily answered Witten’s question, “Maybe his thought process is stuck. When I was researching Fermat’s last theorem, I fell into the same state… I know what he’s experiencing right now, we just have to wait for a bit.”

When he was researching Fermat’s last theorem, he first failed when he used the Iwasawa theory. He then changed to the Colivagin Fletcher method. Then he found out that the method had a serious problem when applied to a special Euler class. This led him to abandon his claim of successfully proving Fermat’s last theorem.Read more chapter on

That was until the last day of August when he suddenly came up with the idea of using the Iwasawa theory and combining it with the Colivagin Fletcher method. The final result was quite gratifying, to say the least. Wiles repaired the holes in his hopeless thesis and turned it into a proof for Fermat’s last theorem.

Wiles talked about how he was inspired by his daughter’s Lego blocks, and how desperate he was, and about how it was a sunny morning in Barabara…

Actually, he did have the right to brag.

As far as the conjecture itself was concerned, the proof of Fermat’s last theorem was the most brilliant mathematical achievement of the 20th century.

However, thirty years had passed since then.

When Deligne heard him blabber, he merely ignored him.

Fefferman reached out and poked Witten with his finger.

Witten looked at him.

“What?”

“I’ve heard another version of this story.” Fefferman pointed toward Wiles, who was talking to Deligne. Fefferman said, “The last time he told me about this story, he said he was inspired by his wife’s breakfast.”

Witten: “…”

Ten minutes had passed.

Lu Zhou still stood still on stage.

People even began to wonder if he was asleep, but Lu Zhou suddenly moved.

Moreover, he moved in a way that was unexpected.

He picked up the eraser from the table and began to erase the lines of equations on the blackboard. He then picked up the chalk and began to write down new lines of equations.

When Fefferman saw the lines of calculations, his pupils dilated, as if he knew something was coming, but he couldn’t believe it.

However, Lu Zhou’s movements confirmed his hunch.

Lu Zhou wrote down the last line of equations.

He turned around and threw the chalk onto the desk.

He went silent for a few seconds. He then faced the crowd and said in a positive tone, “I solved it.”

After that, to everyone’s surprise, Lu Zhou turned around and walked down from the stage.

Chapter 622: Yang-Mills Equations General Solution!

Solved it?

General solution for the Yang-Mills equations???

Where's the process?

Wait a minute, what about the Q&A session?

Why did he just leave?!

Even though you're a Fields Medal, you can't just be this reckless?!

The audience in the venue looked at each other. The commotion spread throughout the venue like a tidal wave.

Some people shook their heads and stood up, ready to leave. Other people were overwhelmed. There were also some people that took photos of the calculations on the blackboard, and others that looked at their peers in shock, not knowing what to say.

Klitzing was stunned as he stared at the calculations on the blackboard while tightly gripping his pen. He wrote some stuff on a piece of paper and looked at Faltings and said, "Is this the general solution?"

Faltings stared at the blackboard without any expression. He could barely speak.

"I'm good at algebraic geometry. You'll have to ask Fefferman about PDE[1]."

Klitzing: "…?"

There are actually things that you're not good at?

Even though Faltings kicked the ball to Fefferman, Fefferman was just as muddled.

Deligne stared at the calculations on the blackboard. He tried to make some calculations, but just like Faltings, he gave up. He looked at the PDE expert, Professor Fefferman, who was sitting next to him. He put down his pen and asked, "Are his calculations correct?"

"I don't know… Even if I wanted to, I couldn't verify the answer." Fefferman paused for a second and said, "This is in the realm of computer science, not mathematics."

Partial differential equations were different from general equations. It had the highest computational calculation requirement out of all of the mathematical disciplines.

Not only were there very few nonlinear partial differential equations that could be solved, but there were even fewer that had a solution. One could make the case that not only was this one of the most difficult areas of mathematics, but it was also an essential area for establishing phenomenological models for other areas.

If Lu Zhou wrote down the calculation process, Fefferman could follow the steps and try to find any mistakes.

However, the general solution was just there, on its own.

He had no idea what to do.

Edward Witten closed the notebook in his hand and nodded with a serious expression.

“The verification calculation is too large… If he isn’t going to provide a calculation process, we’ll have to use supercomputers to verify this historic discovery.”

His voice was full of excitement.

Not only did he see the possibility of a mathematical solution for the Yang-Mills equations, but he also saw the possibility of connecting the electromagnetic force with the strong interaction.

If Lu Zhou was correct, this day would go down in history.

Wiles was sitting next to him, and he looked interested.

Even though he didn’t really care about what the physics world thought about this, he was still interested in the mathematical proposition itself. After he heard Witten’s words, he immediately nodded.

“I agree, every great discovery has to be taken seriously. If we can’t verify the answer, this would be a huge loss for both Professor Lu and us… Just like Fermat’s last theorem. Also, speaking of which, doesn’t Princeton have a supercomputer? Why don’t we just use yours?”

Professor Deligne nodded.

“I’ll contact them.”

Academician Wang Shicheng was sitting on the other side of the venue, and he took out his phone and took a photo of the blackboard. He then sent it to the Yan University’s mathematics department’s group chat. The people in this group were all top mathematics scholars from Yan University, leaders of China’s mathematics community.

After Academician Wang Shicheng sent the photo, he called the dean of Yan University’s mathematics department.

“I sent the photo to the group chat, help me use a supercomputer to verify it.

“Yeah, it’s for the Yang-Mills equations.”

The guy that previously gloated was sitting next to Academician Wang Shicheng. He gulped and quietly whispered, “Did he really solve it?”

Wang Shicheng said, “I don’t know, but there’s a high chance he did.”

The people in the venue were all muddled. The professors who were responsible for the logistics and the school leaders were overwhelmed by Lu Zhou’s impulsive movements. Dean Qin tried to chase after Lu Zhou but was stopped by Principal Xu.

“What are you doing?”

“What else could I be doing, I’m trying to get him back here. There’s still a Q&A session.” Dean Qin said with a look of worry, “What the hell is this, we’re just going to stop the report halfway through?”

Principal Xu went silent for a while before saying, “We’ll talk about Lu Zhou later. Try to salvage the situation on stage.”

Dean Qin was stunned.

“What… do you want me to do on stage?”

Principal Xu said, “Just say something, thank them for coming, tell them that the report is over. Ask them to eat at the InterContinental Hotel… Do I really need to teach you everything?”

“Okay, okay! I’ll try,” Dean Qin said with a look of panic on his face.

On the other side of the venue.

Han Mengqi was absolutely dumbfounded. She snapped back to reality after Lu Zhou had already left the venue.

General solution?

What general solution?

Is this report over?

Lin Yuxiang, who was sitting next to her, was a lot calmer. Her eyes flashed like stars.

“Wow, Professor Lu is so handsome…”

Han Mengqi: “???”

Even though she didn’t disagree, what did that have to do with the situation at hand?

The grand auditorium was left in chaos because of Lu Zhou’s lines of equations.

Lu Zhou walked out of the old campus and was already in Wang Peng’s car. He headed toward Zhongshan International.

He opened the door and walked into his study room. He then sat in front of his computer and began to edit a new document by typing on his keyboard.

“The differential geometry method is applicable to the partial differential equations solution, but the method requires some adjustments… Damn, why didn’t I think about this half a month ago…”

As Lu Zhou muttered to himself, he became more and more excited.

Inspiration always came at unexpected times.

He finally connected all of the dots that he had been collecting.

“Just set U(3) to be a closed-line alignment in Banach Space X…

“That gives a general solution!”

As he stared at the lines of equations on his screen, his fingers were slightly trembling.

If mathematics were the language of gods, then at this moment, he was standing on a god’s shoulders.

He had never been so close to the objective truth before…

Was there anything else that could be more exciting for a scholar?

Probably not.

Chapter 623: Strong Response

While Lu Zhou was writing his thesis, the Internet was exploding.

Some random reporter that attended the conference uploaded the entire report video onto the Internet.

When everyone saw the moment that Lu Zhou wrote down the last equation and said “I solved it” in a confident manner, the comment section exploded.

[Nutttty! He solved the general solution for the Yang-Mills equations?]

[God Lu is insane!]

[I’m honestly shook.]

[Amazing, even a video like this has millions of views…]

[What the hell is the yang mill? I came here for God Lu!]

[I’ll give everyone a brief explanation. The Yang-Mills equations problem is one of the most outstanding theoretical physics achievements of the twentieth century. It aims to describe the behavior between elementary particles using the non-abelian group. Finding the general solution to the equations gives us

hope for understanding the mass gap from a mathematical perspective. This lets us take a big step toward the Grand Unified Theory!]

[What the hell is the Grand Unified Theory?]

The comment section wasn't the only place that blew up, various media outlets had also followed suit.

Titles such as "The mathematician in his twenties shocks the world again with a unified theory!" or "Former US intelligence chief says: I regret letting Lu Zhou leave our country" were popping up on Weibo and various websites. Numerous photos of Lu Zhou standing in front of the blackboard thinking were posted in many articles.

For a long time, the Yang-Mills equations had been a milestone in the theoretical physics world. Co-invented by a Chinese physicist, this unsolvable equation was finally solved.

Of course, there was also criticism.

For example, after some social media influencer on Weibo saw this video, they immediately responded.

"I don't care about the significance of the Yang-Mills equations. Leaving the stage in the middle of a report is a disrespectful thing to do, it's like a comedian leaving in the middle of a set.

"As a Chinese scholar, Lu Zhou represents more than just himself; he is the image of China. In addition to academic achievements, he should be self-disciplined and well mannered.

"Not to mention, it's extremely irresponsible to write down a conclusion that hasn't been rigorously checked."

After the post came out, the comment section became a war zone.

[Please show us what you're really like in real life, show us how polite you are.]

[Oh, last time when Sir Atiyah used a five-page mathematics thesis to scam the whole world, you said he's a brave warrior. How come now you're criticizing Lu Zhou? Because Professor Lu isn't a foreigner?]

[F*ck sake, what's wrong with telling people to be more polite!]

The original poster saw that the comment section was a mess, so they left one last comment and decided to leave it alone.

In addition to the domestic media, foreign media had also been paying attention to this matter.

Like the drama-filled Daily Mail, after the report ended, they contacted a middle-aged professor who taught at St. Andrew University, who claimed to be an insider.

During the interview, when the middle-aged professor was asked about the incident, he began to respond in an awkward manner.

"I think the general solution is just a bunch of scribbles."

The reporter said, "Why?"

Middle-aged professor: "Everyone that knows a little about mathematics would know that behind every rigorous page of a mathematical thesis, are countless pages of thesis drafts. Especially for a computationally intensive partial differential equation proposition. How can anyone solve the problem without writing anything down? You're telling me he just solved it by standing there and using his inspiration?"

Reporter: "Why would Professor Lu need to forge anything?"

The professor shrugged and said, "I don't know, maybe he's too cocky? Wants research funding? I have a wonderful algorithm to prove that the general solution is correct, but unfortunately, there isn't enough space for me to write down the algorithm."

…

At night.

InterContinental Hotel.

Scholars dressed in formal attire were inside the spacious banquet hall. The gold-plated tables were filled with champagne and Chinese as well as western food. In order to make up for the morning report, Jin Ling University could only use food and drinks to try and give a better impression.

However, only a small subset of people was offended that Lu Zhou didn't follow the rules. Most people were more concerned about the general solution left on the blackboard.

"It's already 8 o'clock." Fefferman looked at the banquet hall entrance and said, "Looks like our protagonist is not going to show up."

Originally, he wanted Professor Lu to explain the general solution at the banquet, but unfortunately, that didn't seem like it was going to happen.

Wiles, who was wearing a tuxedo, had a glass of champagne in his hand as he walked over and said, "What happened with Princeton?"

Deligne still wore the black hat that covered his head. He shook his head and said, "The calculation required is large, and the researchers told me that it would take two to three days to complete. It's still morning over there, so the engineers responsible for arranging the supercomputer task has just woken up."

The John von Neumann Center didn't only serve as a supercomputer for the Princeton Institute for Advanced Study, but it also provided computational support for PPPL. The people at the John von Neumann Center obviously valued orders from NASA or the Ministry of Science and Technology more than the Institute for Advanced Study.

However, since Deligne personally arranged this task, it shouldn't take too long.

Not to mention, the engineers at the John von Neumann Center were also interested in a world-class mathematics problem.

Fefferman sighed and said, "If only he could provide a derivation, even just an idea would be nice."

Wiles smiled and said, "Apparently, he's gone on another retreat? I heard Professor Lu has a unique way of thinking about problems."

Fefferman said, "I think so. He had the habit of locking himself in his room in Princeton. Regardless, before he finishes his work, even if you go to his house, he won't open the door."

“I’m not sure if I should go back first or wait for the results here.” Edward Witten looked at his phone and said, “There’s going to be a new collision experiment conference in CERN in five days.”

Wiles smiled and said, “CERN has conferences every day, how often do you get a chance to witness history?”

Witten thought for a bit and shrugged.

“You’re right.

“I’ll just wait here for a couple more days.”

Chapter 624: Passed Verification!

The sky outside the window gradually lit up.

Lu Zhou was sitting in front of his desk. He took a deep breath and slowly breathed out.

A lot of things were like this, there was only a thin paper wall between understanding and not understanding.

If the wall wasn’t broken, then one would stay confused.

But if it was broken, everything would become clear.

Inside Lu Zhou’s computer screen was the general solution process for the Yang-Mills equations.

When one compared this with the differential geometry L Manifold method for proving the existence of the solution for the nonlinear partial differential equation, the general solution process was surprisingly simple. The main proof part was only ten pages long.

Of course, part of the reason why it was so short was that it used several corollaries and lemmas that had been proven in his previous thesis. Directly referencing the previous thesis omitted some of the more cumbersome proof processes.

Lu Zhou couldn’t wait to share this thesis with other scholars. Not only did he send it to the Annual Mathematics’ editorial office, but he also uploaded it on arXiv.

After this, Lu Zhou stretched his back and got up from his chair. He went downstairs and took a hot bath.

Since he stayed up for the entire night, his biological clock was disrupted, and he didn’t feel sleepy just yet.

In order not to screw up his sleep schedule, he planned on taking a two-hour nap in the afternoon, then sleep at night normally.

After Lu Zhou got out of the bath and put on some clean clothes, he went into the kitchen to make himself a cup of coffee. He took out a cold sandwich from the fridge and was about to put it in the microwave when he heard the doorbell ring.

Lu Zhou looked at the drone hovering near the fridge and asked, “Xiao Ai, who is outside?”

Soon, an artificial electronic voice was heard from the drone.

“It’s your personal doctor, Master.”

Yan Yan?

What is she doing here?

Lu Zhou put the sandwich back into the fridge and told Xiao Ai to open the front gate. He then walked through the living room to the main entrance.

When the door opened, he saw Yan Yan standing there with a plastic bag in her hand. She was dressed differently from her usual medical attire. The white coat was replaced by a casual purple-black t-shirt, and she also had on a casual pair of jeans, making her seem more youthful.

However, compared to her clothes, Lu Zhou was more interested in the plastic bag she was holding.

Even though he couldn’t see what was inside, just from the shape of the container and the smell alone, he could immediately tell that it contained his favorite soup dumplings and soy milk.

“Why are you here?”

Yan Yan shook the plastic bag in her hand and replied in a relaxed manner, “Wang Peng was scared you’re going to die at home alone, so he called me and told me to bring you some food.”

What do you mean I’m going to die?

Lu Zhou ignored this tiny detail and sighed. “Why didn’t he come?”

Yan Yan: “He said that if something did happen to you, I have more experience rescuing people.”

Lu Zhou: “…”

I only went into a coma because I leveled up too fast.

Why are you making it seem like I’m going to die at any second?

Regardless, I’m sure she has good intentions.

Lu Zhou took the breakfast from Yan Yan and began to eat the soup dumplings at the dinner table. He took out his phone and opened Weibo. He was about to look at some interesting trending news when he saw that Yang-Mills equations was actually on trending.

He was intrigued, so he clicked on it and found multiple related articles. Lu Zhou clicked on the comment section.

There were some fans who were congratulating him, and some who were being sarcastic. There were also some who were insulting him… However, he only briefly glanced at the comments and smiled. He didn’t take it to heart.

After all, he had matured a lot over the past few years.

Compared to his previous self, he didn’t care about the praises and insults anymore.

After he gave a “Like” to the people that called him handsome, he was nearly done with his breakfast.

Lu Zhou wiped his mouth with a paper towel and stood up from his chair. He threw the plastic bag and container into the garbage and looked at Yan Yan, who was sitting on the sofa.

“I’m going to the InterContinental Hotel later.”

Yan Yan nodded and stood up.

“I’ll send you there.”

Lu Zhou looked at her with surprise.

“You know how to drive?”

Yan Yan raised her eyebrows.

“You don’t believe me?”

Lu Zhou gently coughed.

“It’s not that.”

Lu Zhou was just a bit worried about getting into AH a female driver’s car[a][b][c].

…

Lu Zhou wasn’t the only one who stayed up all night.

A dozen kilometers away, at the Jin Ling University’s supercomputer center, a group of computational science engineers also worked all night.

Xu Jian was sitting in the office next door waiting for the final result. He chain-smoked while glancing at the door from time to time.

After the report ended yesterday, Dean Qin and the vice-principal took care of the visiting scholars. He, on the other hand, found some professors that were knowledgeable about PDE and took them here. He used Lu Zhou’s general solution and the power of supercomputers to verify the general solution.

It had been more than ten hours since then.

With so many manpower and computing resources, it was about time for a result to come out.

However, there was no activity in the computer room yet…

This time of restlessness reminded him of when his wife was giving birth.

Xu Jian took a deep breath and put the cigarette butt in the ashtray. He was about to go ask about the progress.

However, when he arrived at the lounge door, the door was pushed open. Two information technology engineers walked in with serious expressions.

Xu Jian looked at the serious expressions on their faces and paused for a second. He then immediately asked, “Is the result out? What is it?”

The engineer said, “The result is out, I hope you’re mentally prepared.”

Xu Jian looked a little bitter as he took a deep breath and said, “Tell me.”

The two engineers looked at each other before the same engineer said, “The result went beyond all of our expectations… The general solution for the Yang-Mills equations is correct!”

Xu Jian: “… ???”

Xu Jian nearly spat in their faces.

F*ck sake, if it’s f*cking correct, why did you give me that look? My a*s thought it was going to be incorrect!

However, he didn’t care about the two engineers. The excitement that rushed into his veins made him laugh out loud.

The two engineers looked at Principal Xu before looking at each other.

Is this guy…

Crazy?

Xu Jian stopped and caught his breath. He immediately looked at his assistant, who was sitting in his office.

“Immediately contact the public relations department, I want to tell everyone about the results!”

[a]i can see the comments already.

“Author is sexist!”

[b]_Marked as resolved_

[c]_Re-opened_

yeah…

Chapter 625: Is He Even a Human?

While Jin Ling University’s supercomputer center published the results on their official website and contacted media outlets for a press conference on this issue, Lu Zhou was riding in Yan Yan’s white SUV that was parked outside his house.

After a half an hour drive, the car stopped at the hotel’s underground parking lot.

After Yan Yan put the handbrake down, she looked at Lu Zhou through the rearview mirror, as if she was trying to show off her driving skills. However, Lu Zhou didn’t notice her at all. After all, he was still focused on the thesis he had just written.

After he got off the car, he went into the elevator and went straight to the hotel lobby.

It was already seven o’clock in the morning, and a lot of scholars who had healthy sleeping schedules were already out of bed.

Especially for people who were planning on flying today, they were already carrying their suitcases and walking out of the main entrance. However, the scholars were stunned the moment they saw Lu Zhou.

Lu Zhou?

Isn't this guy on another retreat?

Why is he out so early?

Maybe…

Suddenly, the scholars who had already bought tickets and were walking through the main entrance with their suitcases began to hesitate.

When Fefferman walked out of the elevator, he made eye contact with Lu Zhou and paused for a second. He immediately walked over with a cheerful smile.

"I can't believe it, you're out of the house?"

Lu Zhou coughed and said, "What do you mean out of the house, I'm not an introvert."

"No, I mean about you retreat… You know what I'm talking about, your unique way of researching problems. We all thought that it'd be at least a month before you'd come out. I didn't expect you to be out so soon." Fefferman smiled and patted Lu Zhou's shoulder. He said, "Regardless… Since you're here, I'm guessing your result is correct? I have a lot of questions I want to ask you, how about we eat breakfast together?"

Lu Zhou: "I already ate breakfast."

Fefferman shrugged and said, "That's unlucky, can I have you for afternoon tea?"

"Of course you can, I also have some problems about the Yang-Mills existence and mass gap that I want to discuss with you." Lu Zhou looked at his watch and said, "There will be a simple report in about two hours, in the same venue as yesterday. It'll be a continuation of yesterday's report. I'll explain the general solution and answer some questions."

Fefferman spoke in a serious manner, "Do you not have a thesis? Or at least a thesis draft? I'm guessing you didn't prepare a PowerPoint. I'm afraid there aren't many people that can keep up with your tempo."

Lu Zhou shook his head and said apologetically, "The time frame is too short, and I didn't have time. However, the thesis is already on arXiv, I'll tell Jin Ling

University to print a few hundred copies before the report and make sure that everyone has a copy."

"Already on arXiv? You should have told me." Professor Fefferman thought for a bit and said, "I suggest moving the time of the report to 2 o'clock. That way, we'll have more time to read the thesis."

Normally speaking, for a major mathematical proposition like this, it would take at least three days to fully comprehend the thesis. If Lu Zhou wanted to do the report in two hours, even scholars who were researching the Yang-Mills equations would have trouble listening to the report.

Lu Zhou thought for a bit and felt that it made sense, so he nodded and replied, "Okay then, we'll go with your plan."

…

While the people from Jin Ling University were relentlessly informing every participant of the report, the announcement from the Jin Ling University's supercomputer center spread to various major media networks.

Because the Yang-Mills equations was on trending yesterday, Lu Zhou was still on the trending page. Today, because of the Jin Ling University's supercomputer center, he was on the trending page again.

A Chinese news network that re-posted the supercomputer center's announcement had already reached 5,000 comments.

[Supercomputer used 16 hours to verify the results, while Professor Lu calculated it in ten minutes… Amazing, how many supercomputers is Professor Lu's brain worth?]

[Jesus Christ, is he even a human???]

[Surely he used more than 10 minutes, he definitely thought about it beforehand.]

[I think God Lu can fight against AlphaGo.]

[You can't compare it like this. Traditional supercomputers are more dominant in the numerical calculation, whereas the human brain is more dominant in abstract thinking. For problems that need to be solved in an abstract way, it is

difficult for supercomputers to exhaustively find a solution. If quantum computer develops and matures in the future, they might have a slight advantage for solving these kinds of problems. But for now, supercomputers aren't the end-all solution for mathematics problems!]

[If only I had a strand of this god's DNA… (sad) (sad)]

[Forget about it, it's a state secret, why else do you think God Lu is still single?]

[Hahaha, makes sense.]

[Don't know if he's going to win the Fields Medal again, but he's probably going to win the Nobel Prize in Physics.]

While the entire Internet was shocked at the announcement made by Jin Ling University's supercomputer center, the social media influencer that previously insulted Lu Zhou had suddenly deleted their post and pretended as if nothing happened.

After all, everyone made mistakes.

Now that the Jin Ling University's supercomputer center made the announcement, all of the previous fake information was now exposed.

Lu Zhou was too lazy and didn't have the time to argue with those laymen, but Jin Ling University was different.

Whether it was to protect the reputation of the school or to protect the rights of teachers and students, Jin Ling University wouldn't tolerate any slander.

After all, no one would want to go against a top-five domestic university.

Plus, the social media influencer only wanted to stir some drama and gain more followers; they didn't want to lose their millions of existing followers…

If they did lose their account, the damage would be unthinkable.

At the same time, the Daily Mail was informed of this news. They immediately sent a reporter to the University of St. Andrew because they wanted to interview the mathematics professor that they just interviewed yesterday. The reporter wanted to ask him about the results of Jin Ling University's supercomputer center.

Unfortunately, the other party refused to conduct any interviews. The professor said he was too busy with research and kicked the reporter out of his office.

Lu Zhou wasn't very concerned about his reputation outside of academia. However, he was famous again…

Chapter 626: A Historic Mathematics and Physics Monument!

Two o'clock in the afternoon.

Still in the Jin Ling University's old campus grand auditorium.

Even though there were one-fifth fewer people attending compared to yesterday, the scene at the venue was still quite lively.

Lu Zhou was standing on stage. He was writing on the blackboard while explaining at the same time.

Once the blackboard was filled, a staff member quickly dragged another one and neatly placed the blackboard on stage.

The staff went on stage five times in total, there were six fully written blackboards.

When Lu Zhou wrote down the last line of the equation for the general solution, the audience stood up in excitement.

Thunderous applause spread like a tidal wave, filling the entire report venue.

Edward Witten was clapping. He looked at the blackboards on stage and smiled. "Thank God I didn't leave early. Otherwise, I would have missed this historic moment."

Deligne had a warm smile on his face as he said emotionally, "Maybe his talents in other mathematics fields are much stronger than his algebraic geometry ability."

Fefferman smiled and jokingly said, "Don't be discouraged. He's just not interested in algebraic geometry for the time being. Once he becomes interested, the entire algebraic geometry field will be shocked by his results."

Deligne couldn’t help but chuckle.

“Hopefully that day comes.”

The applause gradually subsided.

It faded away, just like a tidal wave.

The audience in the venue sat back down when Lu Zhou stopped writing.

Lu Zhou looked back at the audience and cleared his throat. He then said slowly, “We have obtained the general solution for the Yang-Mills equations. This gives us a deeper understanding of the mathematical relationship of the interaction between microscopic particles and their existence or movements.

“From this point onward, I will try to explain the strong interaction mass gap from a mathematics perspective.”

When Lu Zhou heard the exclaims from the audience, he paused for a second before he continued, “Next up is the Q&A session.”

…

The solution to a proposition was different than the proof of a proposition.

The latter required a rigorous proof process of the idea; there was no room for any mistake.

The former didn’t require any proof process, even guesses were allowed by the academic community.

Just like when Waring wrote “Depths of Algebra” and proposed that “every positive integer can be expressed as the sum of at most r powers of k, where r depends on k”. For example, he boldly predicted that every natural number was the sum of at most 4 squares, 9 cubes, or 19 fourth powers.

He didn’t provide a clear solution to these conclusions, and the proof of the existence of g(k) and the subsequent numerical solutions was solved by someone 150 years later.

Actually, even if Lu Zhou didn’t provide a perfect solution proof, it would be fine.

It would just leave the future generations in suspense, and the people in the next 50 to 100 years would, instead of using computers, try to prove this solution in a mathematical way, to test whether this conjecture was correct…

In short, after the Q&A session ended, the report also came to an end. The scholars visiting China went on their return flights.

Ten o'clock at night, Jinling international airport.

Edward Witten was waiting for his flight in the airport terminal. He picked up a magazine and was about to sit down and read it. However, he was immediately approached by a reporter.

"Professor Witten, what do you think about this report?"

"That was an excellent report. I would like to thank Professor Lu for bringing this report to us, and the hospitality from Jin Ling university. I already miss the uh… Jin Ling roast duck? I think that's how you say it," Witten said with a smile on his face.

The reporter smiled as well before immediately asking, "Then what do you think about the content of the report?"

Witten thought for a bit before replying, "There is no doubt that this is a milestone both in mathematics and physics. Finding a general solution for the Yang-Mills equations means that we can look at the microscopic world in a more profound mathematical point of view. This will reveal existing physical phenomena that we have not yet discovered.

"Looking at this from the view of a theoretical and mathematical physicist, I think this will be the most outstanding research result of the year."

Reporter: "Even though the year has only just begun?"

"Yes, I am almost certain of this." Witten looked at his watch and saw that it was getting late. He looked at the reporter and said, "If you have any other questions, make sure to ask them now. I have to board the plane in five minutes."

If everything went well, he might be able to still attend the CERN conference.

However, compared to the experience he just had in China, the conference waiting for him in Switzerland seemed to be rather minuscule.

“I promise, this is my last question.” The reporter flipped through their notebook and found the most important question. They asked, “People have criticized Professor Lu for suddenly leaving the report, and they said that his action offended other scholars. As an internationally-renowned scholar, what do you think about this?”

“I’m not exactly internationally renowned.” Witten smiled and humbly said, “Compared to Professor Lu, I’m still lacking in the Nobel Prize department.”

He smiled and paused for a second.

“Normally speaking, unless something happens, no one would leave in the middle of a report. After all, the report affects whether his theorem is going to be recognized by the academic community. However, if he really had to leave during the middle of the report to do something, I personally think it is understandable.”

Reporter: “Do you think the accusations are unreasonable?”

“I think so, I mean after I saw the amazing results of the second report, I don’t really have any complaints.” Witten smiled and said in a relaxed manner, “Personally, I think that criticizing a scholar that has made outstanding contributions to the theoretical physics community and think that us scholars are as shallow as them…

“I think that’s the most offensive thing.”

Chapter 627: Discussion With Professor Fefferman

The report of the general solution to the Yang-Mills equations came to a successful conclusion.

Over the next three days, the Yan University’s supercomputer center, the John von Neumann Center in Princeton, and several other supercomputer

centers that were interested in this proposition had released their calculation results.

The results were as expected.

The solution to an equation might differ depending on the input parameters, but the general solution wouldn't differ from calculation to calculation even though it was a nonlinear partial differential equation.

After the supercomputer centers released their results, most of the general public were amazed by Professor Lu's "super calculation" abilities. However, there were also attacks about the Jin Ling University's supercomputer center releasing fraudulent data and how the general solution was just a bunch of scribbles.

Even though academic fraud had happened in the past, and even if the Yan University's supercomputer center wasn't totally trustworthy, the John von Neumann Center was certainly still authoritative in most people's eyes.

Also, because of Lu Zhou's thesis on arXiv, research on the Yang-Mills equations, the mass gap, and the electromagnetic force and strong interaction had blown up on arXiv. There were also popular discussion posts on other major academic exchange forums.

After all, understanding the mystery behind this equation was the lifelong wish of many scholars. The discovery of the general solution gave everyone hope.

In addition to satisfying the scholar's own curiosities, there was also the lure of the Nobel Prize and the million-dollar reward for each Millennium Prize Problem.

If anyone could put down the last brick on this building, not only could they receive at least a third of the prize money, but they could also stand on the Nobel Prize podium with a world-renowned scholar.

Except for some rather peculiar scholars, no one disliked having too many honors…

…

Lu Zhou didn't pay a lot of attention to the results from the supercomputer centers.

After all, he knew that he was correct, and that was enough for him.

During the three days after the report, Lu Zhou spent his time at the mathematics department of Jin Ling University. He discussed the Yang-Mills existence and mass gap with his friend Professor Fefferman.

Even though Fefferman's main area of expertise was mathematics, he was well versed in partial differential equations. Therefore, his research was closely related to physics. He had his own unique insights in fluid mechanics and theoretical physics.

This was exactly what Lu Zhou needed.

Not to mention, they were partners for the Navier–Stokes equations, and they already had past experience talking about academic problems.

Jin Ling University, mathematics department.

Lu Zhou's office.

The three blackboards placed against the wall were fully written.

After talking for the entire morning, Lu Zhou's throat was feeling dry. After he asked Assistant Lin to make him two cups of coffee, he sat down on the sofa with Professor Fefferman and started to chat.

"How is Princeton?"

Fefferman smiled and said, "It's good, a lot of students miss you, there are also some young female researchers that have expressed their fondness of you… It's kind of weird for me to talk about these things, but do you want me to give them your email?"

Lu Zhou nearly spat the coffee out of his mouth.

"Cough! There's no need for that… Oh yeah, what about my students? How are they doing?"

"Qin Yue is currently a researcher at the Institute of Mathematics back at Princeton Institute for Advanced Study. He seems to be doing research in number theory. The guy named Hardy returned to Brazil, and apparently, he's teaching at Sao Paulo University. I'm not very sure about him… Oh yeah, the girl named Vera Pulyuy, her number theory lectures are very good. She's

already an associate professor at Princeton University. However, she seems like she doesn't want to tell people what she's working on, so maybe you can go ask her? Satisfy our curiosity."

Lu Zhou subtly looked away and coughed.

"Since she doesn't want to disclose her research, I think we should respect her decision."

Even though Lu Zhou was pretty sure that if he asked her, she would tell him.

But…

Lu Zhou wasn't sure how to go about asking her.

"You're right." Fefferman shrugged and said, "I'm afraid she's a bit too stubborn. I've seen similar cases that happened to many young scholars. After all, we all think that she is the biggest contender for the Fields Medal at the St Petersburg International Congress of Mathematicians. If she's stuck on one mathematical proposition, it would be a shame."

Lu Zhou went silent for a while before saying, "I believe she knows what she's doing."

"Okay then, since you put it that way," Fefferman said.

Fefferman noticed that Lu Zhou didn't seem like he wanted to talk about this, so he didn't say anything else.

He picked up the cup of coffee and looked at the three blackboards near the office wall.

"Honestly, you should talk about this stuff with Edward Witten. He's a master in theoretical physics, while I only know about theoretical physics because of my research needs." Fefferman put down the coffee cup and said in a somewhat helpless tone, "And my theoretical physics knowledge is even worse than my fluid mechanics knowledge."

Lu Zhou knew he would say this, so he smiled and said, "Discussing this problem with him might not be the best choice, at least for now… Of course, I hope you won't tell him I said this."

“Can you tell me why?” Fefferman looked at Lu Zhou in surprise and said, “Maybe I’ll put this in my memoir later.”

“Then I’ll have to answer this question seriously.” Lu Zhou smiled and paused for a second. He said, “Actually, the reason is nothing special. It’s just that he’s a mathematical physicist, and he’s been researching the Grand Unified Theory for more than a decade. He has a mature viewpoint of both string theory and the interaction of microscopic particles.

“The existing theoretical physics theory is quite mature. It just lacks experimental evidence. Talking about this problem with him wouldn’t be a discussion, it would just be us trying to persuade one another… Before any new theories are invented, there wouldn’t be a point discussing this with him.”

“I think Witten knows this as well.” Lu Zhou paused for a second and said, “Otherwise, I’m sure he would have liked to stay here for a few more days. There was no reason for him to leave in such a hurry.”