Scholar 431

Chapter 431: Wire Transfer Me

After Lu Zhou got back from Brazil, he began his research on the plasma turbulence phenomenon.

Although he didn't go on another retreat, his lifestyle was very regular. He would either be in his bedroom, Princeton Institute for Advanced Study, or the PPPL.

Researching the plasma turbulence phenomenon wasn't much easier than solving the Navier–Stokes equation.

They were at a different kind of difficulty.

The latter was equivalent to using abstract mathematical tools to prove whether a smooth solution existed. The latter was equivalent to finding a special case and solution of the Navier–Stokes equation.

Until now, there had only been a hundred special Navier–Stokes equation solutions discovered in the mathematics world; most of them did not include the time dimension or were limited to two spatial dimensions.

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For the people that did computational fluid dynamics or applied mathematics, most of their special solutions were done using observational models with empirical formulas and parameters; it didn't provide much reference value for Lu Zhou.

This meant that Lu Zhou had to do this daunting task entirely by himself as he didn't even have any literature to research.

Of course, he still had some tools.

For example, his L Manifold Navier–Stokes equation topology object was a very useful theoretical tool.

Not just that, but after coming back from the conference, his mathematics level went from Level 6 to Level 7, and he was only three levels away from the maximum Level 10. His intuition and talent in mathematics had grown exponentially over the past few weeks.

Lu Zhou wasn't 100% certain, but he was 90% certain he could solve this problem.

All he needed was time…

Three weeks after returning to Princeton and near the end of August, Lu Zhou finally received an email from the Clay Institute.

[Dear Professor Lu Zhou, I am James Carlson, the chairman of the scientific advisory board for the Clay Mathematics Institute.

[Based on the anonymous evaluation of 12 reviewers and the comments from the International Mathematical Union, we believe you have proved the existence of a smooth Navier–Stokes equation.

[The solution to this problem will greatly enhance the development and application of mathematical theory. We sincerely thank you for your contribution to the mathematics and scientific world.

[Based on the recommendation from your partner, Professor Fefferman, we are confident that your project work was crucial. After a vote by the Clay Institute board of directors, we have decided to grant you the one million dollar prize money in advance…]

Normally, solving a Millennium Prize Problem didn't mean one could immediately receive the price money.

According to the official rules, any solution had to be published in a reputable journal for at least two years and recognized by the mathematics community. Only then, could the Clay Mathematics Institute decide on whether or not to issue the million-dollar prize money.

However, this rule was malleable.

For example, Perelman's thesis had never been published in a reputable journal, and Carlson, the president of the Clay Mathematics Institute, didn't wait two years before heading over to St Petersberg to visit this hermit…

However, Carlson wasn't able to meet Perelman.

Because Lu Zhou's report was held in the form of a special report at the International Congress of Mathematicians, and that Lu Zhou had answered all of the questions at the report sessions, there was no need to wait for the academic community to reach a consensus.

Therefore, the Clay Institute made this decision.

In the email, the Clay Institute also attached the conditions for receiving the award.

As an age-old proposition announced at the Millennium Conference, Carlson hoped that this award ceremony would be grandiose.

The award ceremony location was at the Collège de France, which was also where the Clay Mathematics Institute first announced the Millennium Prize Problems. The million-dollar special award ceremony would be held by the Clay Mathematics Institute and European Mathematical Society.

No one knew what kind of ceremony it would be.

This was because Perelman, the mathematician that proved the Poincaré conjecture, was a peculiar person that didn't enjoy public attention. Even though he proved the conjecture over a decade ago, an award ceremony was never held.

If Carlson sent the invitation a month ago, Lu Zhou would be happy to buy a plane ticket and attend the award ceremony. After all, a million dollars was a million dollars.

But now that his research on plasma turbulence phenomenon had entered a critical stage, he was neither willing nor interested in traveling long distances.

Lu Zhou thought for a moment before he responded politely to the invitation. He said that his research was in a critical stage, and he couldn't find the time to fly to Paris. In addition, he said he didn't want to refuse the million dollars and even attached his bank account details in the email.

Which meant that Lu Zhou just wanted a wire transfer.

As for the medals or certificates, Lu Zhou didn't mind if they sent it to him by postage…

When Carlson read this email, he nearly spat on the computer screen.

This was almost more irritating than when Perelman refused to accept the award.

If that weirdo doesn't want the award, then it's fine! But what the hell is this bank transfer!

Why are all of these Millennium Prize Problem solvers so eccentric?!

Carlson wrote a response and told Lu Zhou it would be impossible to wire the money to him.

The reason was simple!

Two Millennium Prize Problems had already been solved, but the Clay Institute had never even hosted an award ceremony. If Lu Zhou wanted the prize, he had to come to Paris.

Of course, in Carlson's reply, he also wrote in a respectful manner where he stated that he understood the importance of a scholar's research.

If Lu Zhou really wasn't available, Carlson was willing to arrange a suitable award ceremony date with him.

When Lu Zhou read Professor Carlson's reply, he felt annoyed by the formalism of this guy.

The Clay Institute was located in Cambridge, Massachusetts, and it wasn't too far from where Lu Zhou lived. Lu Zhou could even get there without flying. He could do so just by driving in his Ford Explorer.

However, these people weren't happy to hold the award ceremony in their own country; they had to hold it across the pond at the Collège de France.

Attending the award ceremony would waste at least a week of Lu Zhou's time.

Lu Zhou had an interesting research project going on right now; therefore, this was unacceptable.

Lu Zhou thought for a bit before he wrote a reply.

[… I can't give you an accurate date. Maybe only after my research results on the plasma turbulence phenomenon is out that I might be able to take the time to accept the prize.]

After writing the email, Lu Zhou hit "Send". He closed his email tab and continued to study his half a year old experimental data that was sitting in his computer.

Professor Carlson, who was at the Clay Institute in Massachusetts, read Lu Zhou's email. He didn't say a word. Instead, he looked at his secretary, Daft.

Daft sighed and patted Professor Carlson's back as he said, "… That was probably the most euphemistic rejection we could've gotten."

Daft didn't study fluid mechanics; he wasn't even in academia. However, working at the Clay Institute had exposed him to many cutting edge research advances.

The turbulent flow was a well-known type of a chaotic system; it was also a problem that many mathematicians and physicists struggled with.

Not to mention, Lu Zhou's research object was on plasma…

In Daft's opinion, Lu Zhou's letter might as well have been a direct rejection.

Carlson took off his glasses and rested his arms on the table. He then pinched his glabella.

"I don't understand… Why? It's free money, why is it so hard to give?"

He was tired from the inside out.

He had experienced this feeling when he was the institute director, and now that he was the chairman of the Scientific Advisory Board, this feeling hadn't changed a bit.

All he wanted to do before retirement was to grant a million-dollar prize bonus and medal to the solver of the Millennium Prize Problem at the grand hall of the Institut de France.

But why was this wish so difficult to achieve even though two Millennium Prize Problems had already been solved…

Chapter 433: Professor Lazerson's Decision

While Lu Zhou and Professor Green were reaching an agreement, a strange person appeared outside his office at Princeton Institute for Advanced Study.

The person hesitated before knocking and walking into the office.

"Is this Professor Lu Zhou's office?"

Vera stopped writing and said, “Yes, why do you want to find Professor Lu?”

The old man looked around the office as he said, “I need to talk to him… Is he taking time off today?”

“Nope,” Vera shook her head and said, “but he left in the morning.”

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The old man asked, “Then can you tell me where I can find him?”

“He’s been doing research at the John von Neumann Center these days, so you can go there if you want to find him.”

The old man nodded and said, “The supercomputer center? Okay… Thank you.” He turned around and was about to leave the office.

However, suddenly, the office door was pushed open.

Lu Zhou came back from the John von Neumann Center with the new data.

When he saw Lazerson, he was stunned.

At first, he thought he had misrecognized him.

Ever since the end of last year, Professor Lazerson had been visiting the Germany Wendelstein 7-X laboratory, and the two had been communicating through email.

Lu Zhou didn’t know Lazerson was coming back.

“Lazerson? My dear friend, you came back from Germany? When did you come back?”

Lazerson looked at his watch.

“I got off the plane five hours ago…”

Lu Zhou laughed and said, “In any case, welcome back! Actually, I was about to email you a piece of good news. Come, I’ll show you a piece of treasure.”

When Professor Lazerson saw how excited Lu Zhou was, he hesitated for a moment. However, he still followed Lu Zhou to his computer.

Lu Zhou switched on his laptop and plugged in his USB. He then quickly opened the simulation software.

When Professor Lazerson saw the intersecting green, red, and yellow lines on the computer screen, he had a surprised look on his face.

“Unbelievable… You actually did it?”

“There’s still one more step I need to do. I need to use a supercomputer and test the model, and it might take a few days. But the mathematical model is basically finished,” Lu Zhou said with a smirk. “Isn’t it magical?”

“Yeah…” Lazerson was hesitant. He coughed and said, “Congratulations! This mathematical model alone is worthy of a physics award. Also, the main reason I came back was to tell you something. I hope you won’t be too surprised.”

Lu Zhou looked at Professor Lazerson’s serious demeanor and asked, “What’s up?”

Lazerson: “I plan on resigning.”

Actually, Lazerson could have said something worse. Still, Lu Zhou didn't expect to hear this.

Lu Zhou looked at Lazerson in disbelief and said, "Resign?"

"Yes." Professor Lazerson nodded and said, "The He3 atom probe is a fantastic plasma diagnostic technology. I have a feeling that it might become a staple of every plasma research institute. If every He3 atom probe has to be designed and constructed by my group of engineers, it would be way too cumbersome. So I want to design a standardized device that can be disassembled or installed; the kind that works by plugging it into an electric outlet."

Lu Zhou didn't know how to react.

He went silent for around five seconds before he said, "You're already the head of the project team, and you might become the PPPL director in a few years… Is this really the right choice?"

"There's nothing right or wrong about this. In my opinion, distributing the He3 probe technology is more important than any position at the PPPL. Not to mention, why would I want to be the PPPL director? I would rather have a few million in funds to do my own research than to manage hundreds of millions and have none of the money."

Lu Zhou: "But… My dear Professor Lazerson, how many plasma research institutes can afford your equipment? Or how many are willing to order it?"

"That's not a problem, and I'm not worried about sales." Professor Lazerson smiled and said in a relaxed tone, "I know you don't think this is much money. After all, you rejected a million-dollar Millennium Award prize."

Lu Zhou said, "I didn't reject it, I only postponed it!"

"Fine, you postponed it, but that's not the main point." Professor Lazerson said, "Back to what we just said, although my company is still in its early stages, we've already signed two 8-figure contracts."

Whether it was in China or America, jumping from academia to business was not an unusual thing.

Especially for technical engineers like Professor Lazerson, they were much better at transforming a piece of technology into a product than normal scientists.

Not just that, but with his academia connections, Lazerson could easily sign contracts with major plasma physics research institutes. As for the people in the plasma physics community, as long as Lazerson's prices were reasonable, they were happy to do business with him.

But this wasn't good news for Lu Zhou.

Not because Lu Zhou wouldn't receive any profits.

He never intended to make money on the He3 probe technology, nor did he want to register a patent. The probe's main purpose was to facilitate his own research. In fact, he was happy to see other people commercialized the product as it would save him a lot of trouble.

However, he didn't expect Lazerson to be the one to do this.

If Professor Lazerson resigned, Lu Zhou would undoubtedly lose an excellent research partner.

Lu Zhou tried to convince him, "You're already fifty years old, I suggest you think carefully before making decisions."

Professor Lazerson shook his head and said, "Fifty years old isn't that old. Plus I've thought about this for a long time. The reason I came here was to bid you farewell."

Lu Zhou looked at how determined Professor Lazerson was, and he knew he couldn't persuade him.

After a while, Lu Zhou sighed and said, "I wish you the best… If there's anything I can help, feel free to contact me."

Although this was unfortunate, everyone had to make their own choices.

Professor Lazerson was his research partner, not his employee. He didn't have a right to interfere with Lazerson's choices.

Professor Lazerson's eyes lit up when he heard Lu Zhou.

"Really? You're willing to help me?"

When Lu Zhou saw how delighted Professor Lazerson was, he said, "Of course… But It depends on what it is."

"Oh, here's the deal… Although I've already raised some money, we're still lacking in the financing department. Of course, I've thought about borrowing from the banks, but it's not easy for a start-up to secure funding, you know?" Professor Lazerson coughed and seemed embarrassed as he said, "Are you interested in investing?"

Lu Zhou: "…"

Chapter 434: I'm Afraid You Don't Need Supercomputers…

In the end, Lu Zhou still spent the money.

The reason wasn't that he thought Professor Lazerson could make a lot of money. He did it as a favor for a friend.

Not to mention, since he took part in creating the He3 atom probe technology, he hoped that this technology would make an impact on the plasma physics field.

Lu Zhou told his manager at Star Sky Technology, White Sheridan, to sort out the specific financing plan and relevant contracts.

A few million dollars worth of investment wasn't a big deal for Lu Zhou…

As the numbers of electric or hybrid cars that were on the roads increased, so would the size of Star Sky Technology's bank account.

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It was a wise decision to license the patent to Umicore. Other than the one-time payment that Lu Zhou received, according to White Sheridan's battery market evaluation, Lu Zhou would also receive at least US$90 million in dividends from Umicore.

So far, he hadn't thought of how to spend this money…

After an agreement was reached, Professor Lazerson thanked Lu Zhou again before he bade farewell.

"Goodbye, my friend, whether it is the past or present, it has always been a pleasure to work with you. You've contributed a lot to the He3 atom probe technology. We are certain this will be a great product. Maybe you don't care how people think of the atom probe, but I will make sure this product will impact the field."

Lu Zhou said, "Goodbye… If you go bankrupt someday, feel free to find me. Although I might not be able to make you a PPPL project supervisor again, I can at least provide you a place to do experiments."

"My friend, are you really going to say goodbye like this?" Professor Lazerson patted Lu Zhou on the shoulder and laughed. He walked two steps backward toward the office door and said, "Rest assured, that day will never come. Then… Take care!"

Like this, Professor Lazerson left.

Before leaving, he told the PPPL research institute not to disband the He3 project team; the project team would continue as usual.

Fern Boucher, Professor Lazerson's assistant, would be the new person in charge.

Fern had a PhD from Massachusetts Institute of Technology, and although he was only thirty years old, he had proven himself to be quite talented in the fields of engineering and plasma physics.

However, since this newly appointed engineer supervisor was currently doing an academic exchange at the Max Planck Institute for Plasma Physics in Germany, Lu Zhou would have to wait a while before he could see him.

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

At first, PPPL director Terrence Brog proposed to let Lu Zhou take on the role of the project supervisor.

Lu Zhou had to admit that it was an attractive proposal.

The PPPL was well known in the field of international plasma physics. If it was any other research institute, Lu Zhou wouldn't have created the He3 atom probe technology in such a short amount of time.

The reason why Lu Zhou and Professor Lazerson could achieve success was that the PPPL was full of geniuses. If Lu Zhou could become the project supervisor, he would receive a huge amount of opportunities and resources. In fact, it would be much more than he could possibly imagine.

Lu Zhou thought about Professor Brog's offer for a long time, but in the end, he euphemistically rejected Brog.

Although the PPPL was co-owned by Princeton University, most of its projects were conducted by the United States Department of Energy. Therefore, it wasn't as "safe" as a private institute like Princeton.

If a foreign scholar became the leader of a government lead research project, it would inevitably lead to some unnecessary misunderstandings.

Regardless of why Professor Brog made the offer, Lu Zhou felt like he should only be a consultant for the project team, not the person in charge. This was to avoid potential political conflicts.

Although Lu Zhou might be overthinking, this was something he always paid great attention to…

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It had been a week since Professor Lazerson resigned.

John von Neumann Center.

A group of staff members wearing white anti-static clothes were inside the supercomputer control room, working in front of their computers.

When Professor Green saw that Lu Zhou was standing there silently, he said, “I don’t know why, but I feel like you’re not feeling that good?”

Lu Zhou looked a little depressed as he sighed and said, “A week ago, one of my friends went away.”

Professor Green went silent for a while and sighed.

“Sorry.”

Lu Zhou coughed and said, “Don’t be sorry, I didn’t mean ‘went away’, I only meant he resigned.”

Professor Green: “…”

Why the F*ck would you tell me that then?

Wasting my emotions…

A staff member wearing a white coat came over and reported the situation to Professor Green.

“The supercomputer is in good condition, we can start the experiment at any time.”

Green looked at Lu Zhou and asked, “Are you ready?”

Lu Zhou took a deep breath and tried to cheer up, “I am ready.”

Green nodded and looked at the staff member.

“… Let’s begin.”

The supercomputer began to operate.

John von Neumann was running on full performance; it was like a furnace that was slowly melting the mathematical model.

The stellarator’s circular orbit was simulated in the virtual world of 0s and 1s, hundreds of billions of plasma microfluids were being calculated.

Professor Green stared at the data on the screen and spoke in a serious tone.

“No offense, but your mathematical model is way too complicated! Even if we succeed, it would be difficult to implement this model into the stellarator’s control computer. The simulation alone is so difficult, don’t even think about inputting other variables into the system. Unless…”

Lu Zhou looked at Green and said, “Unless?”

“Unless it’s a quantum computer that can quickly process discrete logarithm operations.” Professor Green said in a joking manner, “Theoretically, the result you want isn’t something a massively parallel computer can handle. Only quantum computers can effectively process each superimposed component.”

However, quantum computers…

Honestly, they were just a concept.

Even the most advanced quantum computers had a computing power of ancient classical computers.

What exactly are ancient classical computers?

Middle school or high school information technology textbooks might have some pictures for reference. Those pictures would show thousands of vacuum tubes that occupied a room the size of a house.

Yep, that guy was called ENIAC.

The computer science field was still at least half a century away from commercializing quantum computing. As for the quantum computers that blew traditional computers out of the water… that was all science fiction.

Therefore, Professor Green said this in a joking tone.

Lu Zhou didn’t say anything; he only nodded his head and began to think.

“Okay.”

The thesis was sent across the Pacific Ocean and right into Professor Keriber's mailbox. At the same time, a very serious meeting was taking place in the conference room at the Wendelstein 7-X laboratory.

The big names sitting here were Professor Ganser Hesinger, a director of the Max Planck Institute for Plasma Physics, a representative sent from the Helmholtz Association of German Research Centres, and various visiting scholars from the PPPL, the International Atomic Energy Agency, and the Chinese Academy of Sciences Institute of Plasma Physics.

If Professor Lazerson didn't retire, he would be at this meeting as well. The He3 atom probe technology played an important role in plasma observation, and the reputation of the He3 project team had also grown.

But now, Lazerson wasn't sitting here. Rather, his assistant, the thirty-year-old doctoral holder Fern Boucher was here. When he sat next to the group of big names, he almost felt embarrassed to speak.

As for why the conference was so serious…

That was because of something that happened last month.

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Last month, the Wendelstein 7-X finally completed the installation of a water-cooled divertor.

According to the Max Planck Institute for Plasma Physics plan, the water-cooled divertor would completely solve the temperature problem that was present in the reaction chamber.

However, the results weren't as ideal as expected.

When the 100 million degrees plasma was confined within the electromagnetic field, the water-cooled divertor did indeed come in handy. However, the speed of the temperature rising of the first wall exceeded the researchers' expectations.

Due to the large amount of heat energy, the temperature of the first wall material kept rising, and it slowly began to affect the safety of the stellarator's orbit path.

In order to prevent an accident from happening, the staff members had to turn off the equipment and pause the experiment.

At last, the stellarator with the water-cooled divertor could only maintain a high-temperature plasma for six minutes.

Compared to the tokamak's 100 seconds record, this result was quite excellent.

However, this wasn't particularly amazing for a stellarator.

Keriber looked at the research report in his hand and made a brief report to the scholars and experts sitting around the conference table.

"… The water-cooled divertor has been installed. However, it wasn't as good at controlling the plasma as we had expected.

"… According to the data recorded, starting from second 227, a small amount of unbounded plasma made contact with the first wall; this was the main cause of the heat accumulation. This eventually led to the first wall temperature rising faster than the cooling capabilities of the water-cooled divertor."

After hearing Keriber's report, Professor Edor from the Helmholtz Association of German Research Centres suddenly spoke.

"So what you're saying is that the problem isn't the water-cooled divertor, but rather the uncontrollable plasma from the stellarator?"

Although the Wendelstein 7-X Laboratory was owned by the Max Planck Institute for Plasma Physics, the stellarator's internal design was co-built by the Max Planck Institute and the Helmholtz Association of German Research Centres.

The Helmholtz Association of German Research Centres was the second largest institute in Germany, behind the Max Planck Institute; it had a high amount of respect within the fusion energy community.

Keriber answered the question from the Helmholtz Association of German Research Centres, “Not uncontrollable. It’s the natural divergence of plasma. Even a star couldn’t make every single plasma particle orbit around the track. There will always be a few plasma hitting the wall; this is within the bounds of acceptable errors.”

Professor Edor raised his eyebrows. “Only a few particles?”

Keriber: “… That is only an example. I obviously can’t give you the exact number. I can only tell you, compared to the mainstream tokamak device, we are doing extremely well in terms of magnetic confinement fusion.”

Professor Hesinger saw that the two were about to get into an argument, so he coughed and interrupted the conversation.

“The problem is clear. Now, we have to solve the problem, not argue about meaningless things.”

Professor Hesinger paused for a second before he continued, “We have two choices. One is to change the existing control plan, and the other is to change our cooling system.”

They could either reduce the number of plasma particles hitting the first wall by improving the electromagnetic field’s control or upgrade the water-cooled divertor to improve cooling performance.

“Improving the fusion control is very difficult.” Professor Keriber shook his head and said, “If there’s a better control solution, we would’ve used it by now.”

Boucher, who didn’t get a chance to speak, finally said, “What about changing the water-cooled divertor?”

“It’s not realistic, and modifying the existing divertor is also impossible.” Professor Hesinger shook his head and said, “The main problem is, we need to achieve our 30 minutes by 2020 promise… That means we have a maximum of two years.”

The atmosphere in the conference room was a little tense; no one was speaking.

Like what Professor Hesinger said, time was the key.

The water-cooled divertor was no refrigerator; even a millimeter or micrometer change was an enormous project. Reassembling the device was difficult, but redesigning the device was almost impossible.

Over the past 15 years, they spent three years installing the water-cooled divertor onto the Wendelstein 7-X.

Now that they only had two years until 2020, there was no way they could spend another three years redesigning and assembling the water-cooled divertor.

Honestly, setting a time limit for scientific research was an asinine thing.

Even the leading expert of a field couldn’t be certain on when a new piece of technology would be created.

It could be created tomorrow, or it could never be created.

However, if they didn’t set a time limit, no one would give them funding.

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It was noon. The meeting was temporarily dismissed and scheduled to continue at 2 pm.

Keriber was in the laboratory restaurant, and he ordered himself a cup of coffee before he sat down next to the window. He then opened his work laptop and checked his unread emails.

“Thesis review invitation?”

Keriber looked at the email in his mailbox and became interested.

Strictly speaking, he wasn’t a plasma physicist. Instead, he was a plasma and fusion energy engineer.

Also, the stellarator was less popular than the tokamak, and there weren’t many international research institutes that engaged in this field.

The last time he received a thesis review invitation from the American Physical Society was five years ago.

He didn’t want to waste his meeting break time reading a thesis. However, Keriber was too curious and opened the thesis.

Although he wasn’t a plasma physicist, he had been working at the Institute for Plasma Physics for a long time. He was familiar with the theory, and he was also experienced in reading research theses.

A mathematical model for plasma turbulence?

Professor Keriber read the thesis abstract and raised his eyebrows.

Phenomenological model?

Kind of? I’m not sure.

After reading the thesis abstract, Professor Keriber began to read the thesis body. When he saw the big formula in the thesis, his eyebrows twitched.

As an engineer, he was well-versed with mathematics. However, the equation in the thesis was beyond his scope of knowledge. Just looking at it gave him a headache.

It's just a phenomenological model, is it really necessary to use such complex mathematics?

Professor Keriber was confused; this style of compact writing reminded him of someone.

When he looked at the author's name, he suddenly smirked.

It's this guy…

He smiled and shook his head. Keriber gave up and skipped the complex formulas; he looked at the conclusion of the mathematical model instead.

At first, he didn't agree with the thesis.

But the more he read, the more serious he became.

Suddenly, his face turned red. He immediately took out his phone.

"Iger, I'll send a thesis to your email address, print out the thesis for me!"

Iger was his office assistant who was responsible for most of the daily miscellaneous tasks such as scheduling and documents.

Normally, theses that hadn't been published shouldn't be open to the public. However, exposing the thesis privately was within the rules.

After all, many reviewers that came across a particularly excellent thesis in a field they weren't familiar with would often exchange opinions with their peers.

Iger: "Okay sir, how many copies do you need?"

"However many people that are attending the afternoon meeting!"

Chapter 437: Coach, I Want To Sell Drones

The meeting started again.

Professor Keriber stepped foot into the conference room and placed a stack of paper on the desk. He made a gesture to his assistant, who was also holding a stack of papers, telling him to pass the theses around the table.

The professors and engineers sitting around the table didn't know what Professor Keriber was doing.

Edor took a copy of the thesis and frowned.

"What is this?"

Professor Keriber placed his hands on the table before he spoke with a twinkle in his eye.

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"This is what we've been waiting for!"

Edor was somewhat uncomfortable at how excited Keriber was, and he hesitated for a second before asking, "Are you sure this thing is reliable?"

Professor Keriber spoke in a confident manner, “The author of the thesis is Professor Lu from Princeton; this year’s Fields Medal winner. If his mathematical model isn’t reliable, then I’m afraid no mathematical model in the world is reliable.”

A plasma physicist threw the thesis on the conference table and said, “Plasma turbulence… turbulence… the word turbulence gives me a headache.” He pinched his glabella and said, “I’m a plasma physicist; I’m not here to discuss fluid mechanics with you.”

Some professors didn’t say a word as they were concentrating on the thesis in their hands, trying to comprehend the complicated calculations in the thesis. There were a lot of big names in the Max Planck Institute; there were also visiting scholars from all over the world.

There were bound to be some people who were proficient in mathematics.

However, it didn’t matter if someone wasn’t proficient.

They were just like Keriber.

Even though Keriber couldn’t understand the body of the thesis, but like most people, he could still understand the mathematical model results and conclusion of the thesis.

Keriber stared at Hesinger and said in a serious manner, “I know this sounds outrageous since it is well known within the physics community that the turbulence problem is unsolvable. However, if this model is reliable, we can use it to change our fusion control scheme, and reduce the amount of plasma collision on the first wall material.”

Professor Hesinger went silent for a long time before he finally made a decision.

“Then let’s give it a go.”

The best way to test the truth was through experiments.

Just like how their phenomenological model was built using the cumulative experience from countless experiments.

Edor looked at Hesinger in disbelief. “Are you sure you want to change the control scheme? Just because of this unpublished thesis?”

Professor Hesinger looked at him.

“Do we have another choice?”

Changing the control scheme wasn’t an easy task.

However, this type of procedural modification was much easier than a large systematic modification…

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Once Lu Zhou submitted the thesis, he left it alone.

Interestingly, he posted the thesis onto arXiv’s website, sharing it with his peers. However, it didn’t trigger the system mission completion.

It seemed like the rules for this type of application-based thesis was different than mathematics proof theses. Making the thesis available to the public wasn’t the only criteria for mission completion.

Lu Zhou remembered the mission description said he had to “establish a mathematical model for the plasma turbulence phenomenon in a stellarator”.

Maybe the mission also required at least one stellarator to apply his model?

If that was the case, this mission would be a little more difficult…

Even top journals like PRX were unlikely to be adopted by research institutes.

More importantly, there were only a few stellarators in the world…

Of course, there could also be a problem with Lu Zhou's thesis.

But Lu Zhou felt like the probability of that was very low…

After confirming the thesis had entered into the peer review stage, Lu Zhou's work had slowed down a little.

From the Navier–Stokes equation to plasma turbulence, apart from the few days he went to the Brazil conference, he basically hadn't taken a break.

After all, he wasn't a machine; he still needed to rest…

A group of undergraduate boys was testing their drone near Lake Carnegie.

The annual autumn competition was about to begin, so this was the most important time for practice.

As their consultant, Lu Zhou would occasionally join them when he wasn't busy.

On the one hand, he would give the boys advice on technical problems. On the other hand, he would also use this opportunity to hang out around the lake and get some sunshine.

The club leader, Jimmy, sat next to Lu Zhou. He grabbed the grass on the ground and suddenly said, "Professor, I'm graduating next year."

“Oh? Maybe I can give you some good advice, like some reliable professors you can study under.”

Lu Zhou had a good impression of the boy with freckles.

Although Lu Zhou didn’t know a lot of engineering professors, he could still consult some of his professor friends for suggestions.

However, to Lu Zhou’s surprise, Jimmy shook his head.

“I don’t want to study anymore, I want to graduate.”

Lu Zhou looked at him in surprise.

“Graduate? Have you thought of what you want to do?”

“Drones!” Jimmy stared at the little guy flying in the sky and said, “I want to open a drone company. That’s my dream.”

Lu Zhou said, “This sounds… interesting. But Jimmy, what do you plan on using drones to do?”

Jimmy smiled and said, “There’s a lot of things it can do…. like delivering packages or pizza.”

Package delivery drone?

This word makes me nostalgic…

Lu Zhou looked at the drone hovering in the sky and thought back to the first few theses he published in his university days.

He also remembered his Shunfeng offer.

Lu Zhou couldn't help but think. What if he didn't refuse the offer, chose to give up on academia, and went to research drone logistics in a laboratory instead? What would his life be like?

Life really is amazing…

Jimmy: "Professor?"

Lu Zhou said, "What?"

Jimmy looked at Lu Zhou seriously and said, "What do you think of the drone delivery idea?"

"A good idea. I'm optimistic about this project, but I don't have any plans to invest…"

Jimmy smiled and said, "No, you're misunderstanding me, I don't need your investment. My father agreed to lend me five million dollars in venture capital; it should be enough."

Lu Zhou: "…"

Okay, I guess I was over-thinking.

But speaking of which, how come other than my own students, all the students I'm friends with are filthy rich…

"In this case, good luck with your venture. I can't help you with anything else, but I can recommend you some good theses to read… However, it only outlines a general framework. It is far from complete." Lu Zhou paused for a second before he said, "However, they're in the General Journal, and I'm not sure if the database of Firestone Library has them, so you might have to be a little patient when you're looking for them…"

That was how the General Journal worked. Even if someone produced a top tier result, it would be treated poorly.

Lu Zhou spent general points in order to complete the mission. Therefore, it was actually the system that wrote the theses.

Objectively speaking, Lu Zhou felt like the quality of those theses were pretty good. Although they were somewhat sub-par, using it as a framework would be pretty decent.

However, Jimmy was keen. His eyes lit up as he immediately said, “Please recommend them to me!”

Lu Zhou took out a small notebook from his pocket.

He couldn’t remember which academic conference he got this notebook from. He mainly used it to record inspirational thoughts. He was the only one that could understand the symbols and calculations written within.

Lu Zhou tore off a blank sheet of paper and wrote down the name of the journal and approximate publication date before he gave it to Jimmy.

“Take it.”

“Thank you!”

Jimmy took the piece of paper from Lu Zhou and shoved it in his pocket like it was a piece of treasure.

Although the theses were useless for Lu Zhou, he hoped Jimmy would find them useful.

Suddenly, the phone in his pocket vibrated.

Lu Zhou stood up and patted the grass off his pants. He then walked next to the lake and took out his phone.

Xiao Ai: [Master, you have mail!]

Lu Zhou looked at the notification on his screen and clicked on the link. He instantly logged into his email.

Coincidentally, there were two unread emails in his inbox.

One was from PRX, informing him that the peer review had ended and that the thesis would be published in the latest PRX issue.

The other was from the Max Planck Institute for Plasma Physics…

Chapter 439: Physics Level 5 and Special Mission Reward Mission?

Lu Zhou didn't care about the academic community's reaction; he only cared about the completion of this reward mission.

Compared to the existence of a smooth Navier–Stokes equation solution, this type of mission was basically "free marks".

As Lu Zhou stood in the pure white system space, a light blue line of text appeared in the translucent information screen in front of him.

[Congratulations, User, for completing the reward mission!

[Mission completion details are as follows: Build a mathematical model for the plasma turbulence phenomenon in a stellarator.

[Final mission evaluation: None (Reward missions have no evaluation)

Box..

[Mission reward: 100,000 mathematics experience points. 100,000 physics experience points. One lucky draw ticket. (100% special)]

200,000 experience points in total, plus a lucky draw. Although there weren't any general points, it was still a decent reward mission.

After looking at the mission rewards, Lu Zhou began to command the system.

"System, open my characteristic panel!"

A blue light swept across the screen.

Soon, Lu Zhou's characteristic panel appeared in front of his eyes.

[

A. Mathematics: Level 7 (144,000/1.2 million)

B. Physics: Level 4 (33,215/300,000)

C. Biochemistry: Level 3 (24,000/100,000)

D. Engineering: Level 2 (0/50,000)

E. Materials science: Level 4 (13,000/200,000)

F. Energy science: Level 2 (0/50,000)

G. Information science: Level 1 (3,000/10,000)

General points: 3,975 (one lucky draw ticket)

]

Having finally reached Level 5, physics was right behind mathematics.

As for the 1.2 million experience points requirement…

Lu Zhou didn’t want to deal with it.

He closed his characteristic panel. Next up was the exciting prize draw.

100% special…

Please don’t give me an “Easter egg” again…

Lu Zhou took a deep breath. He then prayed to the gods and hoped that he wouldn’t get the Easter egg before he clicked the screen.

However, he suddenly realized a problem.

Wait a minute…

Other than the Easter egg, there’s also a “Patronage Appreciated” prize?!

However, it was too late to pray again as the second his fingertips touched the screen, a wheel began to spin.

Lu Zhou pressed the button.

The system announced the prize in midst of Lu Zhou's nervousness.

[Congratulations, User, for winning the "special" prize!

[Received special mission card!]

Mission card?

Lu Zhou looked at this gadget and paused for a second. Suddenly, he looked worried.

How do we say this…

This isn't as useless as an Easter egg, right?

It's not just a plastic card, right?

Lu Zhou had been screwed over many times by the lucky draw; he didn't trust the system anymore.

I swear if this card is really just a plastic card…

Lu Zhou felt a little suspicious, so he opened the mission panel.

Fortunately, the thing he was worried about didn't happen.

[Special mission card: Able to activate before accepting a normal mission. Activate to begin a special mission chain which replaces the normal mission. Special mission chain cannot be stopped unless the user fails the mission.]

Can't be stopped? Does this mean I can't use general points to stop the mission?

Lu Zhou read the description and hesitated for a bit before clicking the golden card icon in his inventory.

[Special mission chain: Fusion Light

[Mission description: The moment the first two nuclei collided, the small fire of civilization was ignited in the sea of stars. However, it is important to know how to maintain this fire…

[Objective: Complete the design and construction of the DEMO fusion reactor before 2025.

[Mission rewards: Depends on mission evaluation. Rewards include experience points, general points, samples, blueprints, special items…

The mission description was kind of weird, but it was fine. However, when Lu Zhou saw the mission objective, he nearly puked his eyes out.

Before 2025?

Does this sh*tty high tech system use a different calendar?

The DEMO fusion reactor was one of ITER's "fifty-year plan" projects.

Lu Zhou wasn't familiar with the specific plan. After all, plasma physics wasn't a popular field, and most of his physicist friends were theoretical physicists.

The last time he went to Germany, he remembered Professor Klitzing mentioned something like this to him.

According to the EU Fusion Alliance, around 70% of the funds went to ITER and 30% went to DEMO… Something along those lines.

There wasn't a clash between the DEMO and ITER project; they were being conducted at the same time. But anyone with a brain cell knew that if the "controllable nuclear fusion" problem wasn't solved, there would be no way to build a demonstration nuclear fusion reactor.

Therefore, in order to complete the DEMO project, ITER had to be completed first.

It'd be great if the ITER project could be smoothly completed by 2025.

Of course, for this type of seemingly impossible mission, the system gave Lu Zhou a choice.

There were two buttons below the mission requirements.

[Accept/Reject]

Rejecting it means my mission card will be useless, right?

After that, he could choose the best mission from the three randomly generated ones.

Lu Zhou stared at the two buttons and thought for a long time.

Although the number of options decreased from three to two, Lu Zhou felt like the difficulty of the choice had doubled.

He shook his head and tried to clear his mind. He made a decision and placed his hand on the "Accept" button.

Although it was pretty difficult to complete the mission by 2025, he was never one to step down from a difficult challenge.

Controllable nuclear fusion was a very interesting field; it was also one of the obstacles humanity would have to eventually overcome.

Lu Zhou would continue to do research in this area even without the mission.

It was like the system was celebrating his correct decision. The moment he clicked “Accept”, a blue wave swept across the holographic information screen.

[“Fusion Light” mission chain begin!]

The mission panel was refreshed, and the options of choosing three normal missions disappeared and replaced by the Fusion Light mission.

There was a list of mission below the “Fusion Light” mission chain.

The precursors or subtasks for implementing controllable nuclear fusion were listed below.

There were “superconducting material” and “quantum computers or computers stronger than traditional computers” which were part of the main mission. There were also weird side missions like “convince China to invest 10 billion”, “convince a company to invest 10 billion”, “build a nuclear fusion research center”, and “score 100 goals in an international football match”.

In addition to completing the entire mission chain, he could also get rewards from completing main missions and side missions.

Lu Zhou looked at the long list of missions and felt overwhelmed. However, he still sighed with relief.

He could still receive mission rewards by producing in-progress results.

This way, he didn’t have to worry about not receiving anything after years of hard work…