D. School 24

Chapter 24 - Post

What is a partial differential equation? Simply put, an unknown function that appears in a differential equation contains only one independent variable. This equation is called an ordinary differential equation; if the unknown function is related to several variables and the derivative of the unknown function corresponding to several variables appears in the equation, then this This differential equation is a partial differential equation.

The study of partial differentials began with Euler, the most prolific mathematician in the history of mathematics. It is said that the great **** can write 800 pages of papers a year, and this code word speed is far faster than that of angry bananas and Zhiniao village.

He proposed the second-order equations of string vibration in his thesis. Soon afterwards, the French mathematician D'Alembert also proposed special partial differential equations in his book "On Dynamics", which did not attract much attention at the time.

Then the great gods Bernoulli and Fourier conducted more research in this field, which directly led to the establishment of the branch of mathematical physics equations. Fourier's famous paper "Theoretical Analysis of Heat" sounds like a physics paper, but it has become one of the classic papers in the history of mathematics.

Then Green established the School of Mathematics and Physics in Cambridge. He cultivated the great gods such as Thomson and Maxwell. They used partial differentials as the dragon sword to solve important physical problems, and made great progress. Maxwell 's sensational electromagnetic field equation is this school Glorious victory.

Einstein said when talking about this history, "Partial differential equations were just maidservants when they entered physics, but now they have become masters!".

Today, partial differentials have become the basis for studying physical chemistry. It can be said that if you do not understand this, then you have little chance of achieving success in physical chemistry.

General mathematics papers can be divided into four sections. The first section is the preface. First briefly explain what you wrote in this article, and then talk about the background of the problem (for example, to what extent did Lax study on this issue. Tao Zhexuan has What do you think, and what problems have not been solved), and then what problems have been solved by yourself.

The second section is the preface. Generally speaking, it introduces the tools you need to use, such as various definitions and axioms.

The third section is your proof or problem-solving process. The essence of the whole paper is here. It requires clear structure and strict logic. There must be no loopholes.

The last part is what is the use of the results you made, this part can be written or not written, because at this stage of mathematics research, many mathematicians are doing research because of interest, and they are not clear about their own research Something is good for God. It is more likely that the conclusion of this paper may be useless, but the process of solving problems can bring tremendous progress in science.

Lu Qiujian made the paper into an electronic file in this format, and then printed several copies. Hesitantly wrote the name of Professor Gals on the name of the corresponding author, because the problem he left behind was the The fundamental reason for the birth of this thesis is that he also proposed to write the thesis himself.

Then the author 's unit made him really sad. According to the general practice in academia, the student 's unit should be the school, so he can only write Princeton instead of the former Beijing Normal University.

Keep in mind that a paper in the "Annual Mathematics" is nothing for Princeton, but a great achievement for the current Beijing Normal University. In short, he missed an opportunity to prestige at Beijing Normal University. Although he will still be praised by the school when he returns to school, the propaganda is definitely not as great as the one published under the name of Peking University.

But writing Princeton is not without benefits. This is like a young man who just came out of the rivers and lakes to go to a martial arts family to fight the autumn wind. The name of the five tiger broken door knife and the name of the Shaolin disciple must be treated differently.

If the author's unit reads Peking University, the editor may spend a five-minute sweep of it. If Princeton, the editor will read it carefully, plus the name of Professor Gals in the corresponding author column, If there are no major loopholes, it will almost certainly pass the preliminary review and be sent to reviewers in related fields for review. Finally, after carefully reviewing and confirming that there is no problem, Lv Qiujian sent the paper called "A Method for Solving Partial Differential Equations" to the mailboxes of Professor Goles and Professor Wiles, and printed a few more copies. And then go to bed.

The next day, Lu Qiujian brought the printed paper to the class and gave it to Professor Gals. Professor Gals took over and laughed, "It's fast, your email has been received, but unfortunately I haven't had time to read it. , I will give you an answer after watching these two days! "

"Have you already written it?" As soon as he got back to his seat and had no time to sit down, Alfors asked urgently.

"Yes!" Lu Qiujian replied in a low voice, "The two professors gave me a lot of advice."

"Then do you have time to help me read the paper now?", Alfors said his purpose.

"Well, okay, please send me an email, and I will reply to you after I have seen it in these two days!", Lv Qiujian forwarded what Mr. Gols just gave him to Alfors Yay! "Alfus took a fist in excitement.

Returning to his office after class, Professor Goles took the coffee from the teaching assistant and sat on the sofa with Erlang's legs looking up at the paper. Soon he was immersed in the marvelous thinking of the paper. All the black coffee forgot to drink.

"Perfect reasoning process! Ah! ...", seeing the last character, Gals couldn't help but applaud, but unfortunately he kept Erlang's leg posture for too long, his legs were already numb, and the high-five just now He lost his balance and fell to the ground. "George! Come and help me!"

Everyone hurriedly helped Professor Gowles up, he could not arrange his clothes, he directly dialed Professor Wyeth's phone, "Hey, have you read Lv's paper? ... I also I think so Okay, then I will help him deliver ... After a while, you go to the magazine to see the results ... "

Finally, Professor Goles returned to his desk and opened his mailbox. After downloading Lv Qiujian's email again, he sent the paper to the "Mathematical Mathematics" submission mailbox.

Lambert, the review editor of the Annual Mathematics, opened his computer with a whistle, ready to start a hard day's work. As soon as he opened the mailbox, he saw the three-digit number of new emails. He shook his head and punched a cup of coffee. Before entering the inbox to prepare for the difficult first review.