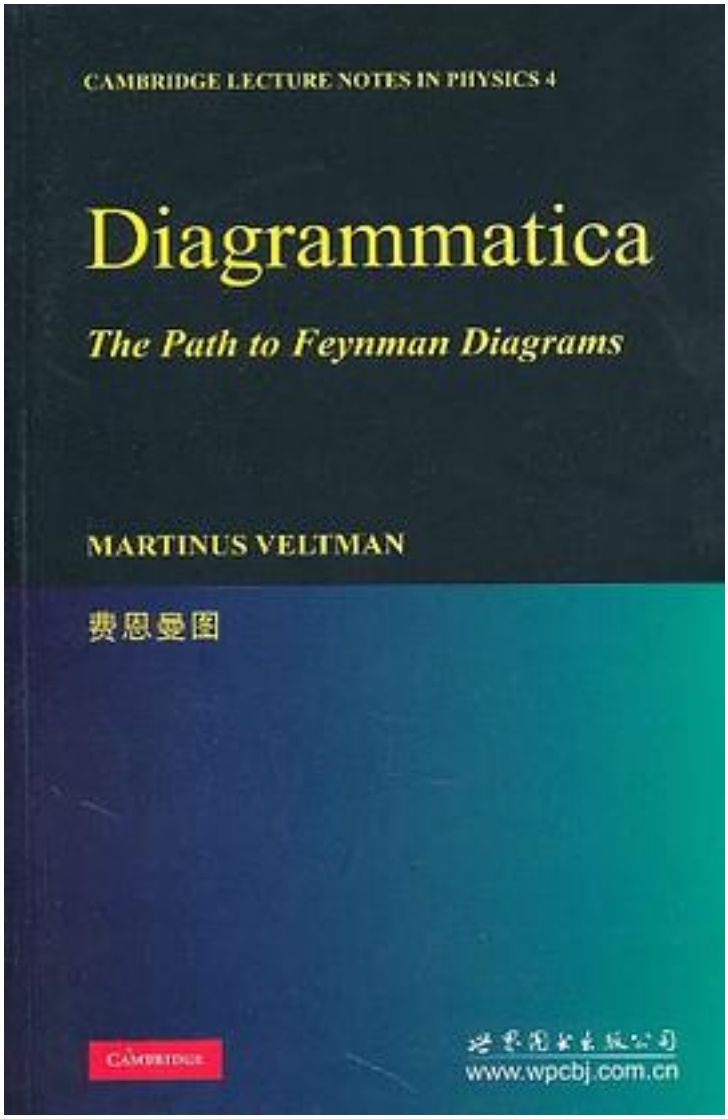
费恩曼图



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《费恩曼图(英文版)》内容简介：In recent years particle theory has been very successful. Thetheory agrees with the data wherever it could be tested, and whilethe theory has its weak spots, this numerical agreement is a solidfact. Physics is a quantitative science, and such agreement defines its validity. It is a fact that the theory, or rather the successful part, isperturbation theory. Up to this day the methods for dealing withnon-perturbative situations are less than perfect. No one, forexample, can claim to understand fully the structure of the protonor the pion in terms of quarks. The masses and other propertiesof these particles have not really been understood in any detail.It must be added that there exists, strictly speaking, no soundstarting point for dealing with non-perturbative situations.

作者介绍:

Martinus Justinus Godefriedus Veltman (born June 27, 1931 in Waalwijk) is a Dutch theoretical physicist. He shared the 1999 Nobel Prize in physics with his former student Gerardus 't Hooft for their work on particle theory.

Martinus J.G. Veltman was born in Waalwijk, Netherlands on June 27, 1931. He started studying mathematics and physics at Utrecht University in 1948. He obtained his PhD in theoretical physics in 1963 and became professor at Utrecht University in 1966.

In 1963/64, during an extended stay at SLAC he designed the computer program Schoonschip for symbolic manipulation of mathematical equations, which is now considered the very first Computer algebra system.

In 1971, Gerardus 't Hooft, who was completing his PhD under the supervision of Veltman, renormalized Yang-Mills theory. They showed that if the symmetries of Yang-Mills theory were to be broken according to the method suggested by Guralnik, Hagen, Kibble, Higgs, Brout, and Englert, then Yang-Mills theory can be renormalized.[1][2] Renormalization of Yang-Mills theory is one of the biggest achievements of twentieth century physics.

In 1981, Veltman left Utrecht University for the University of Michigan-Ann Arbor, frustrated by the recognition his student 't Hooft got for his PhD thesis. Veltman felt that he had done most of the preliminary work and written the program which made the dissertation possible. However, most of the credit went to 't Hooft.[3]

But eventually, in 1999, he was awarded the Nobel Prize for Physics in 1999 together with 't Hooft, "for elucidating the quantum structure of electroweak interactions in physics".[4] Veltman and 't Hooft joined in the celebrations at Utrecht University when the prize was awarded.

Veltman is now retired and holds a position of Emeritus Professor at the University of Michigan. Asteroid 9492 Veltman is named in his honor.

In 2003, Veltman published a book about particle physics for a broad audience, entitled Facts and Mysteries in Elementary Particle Physics.

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