

<<纽结和物理学>>

图书基本信息

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## 内容概要

This book has its origins in two short courses given by the author in Bologna and Torino, Italy during the Fall of 1985. At that time, connections between statistical physics and the Jones polynomial were just beginning to appear, and it seemed to be a good idea to write a book of lecture notes entitled Knots and Physics. The subject of knot polynomials was opening up, with the Jones polynomial as the first link polynomial able to distinguish knots from their mirror images. We were looking at the tip of an iceberg,<sup>t</sup> The field has grown by leaps and bounds with remarkable contributions from mathematicians and physicists - a wonderful interdisciplinary interplay. In writing this book I wanted to preserve the flavor of those old Bologna/Torino notes, and I wanted to provide a pathway into the more recent events. After a good deal of exploration, I decided, in 1989, to design a book divided into two parts. The first part would be combinatorial, elementary, devoted to the bracket polynomial as state model, partition function, vacuum-vacuum amplitude, Yang-Baxter model. The bracket also provides an entry point into the subject of quantum groups, and it is the beginning of a significant generalization of the Penrose spin-networks (see Part II, section 13.) Part II is an exposition of a set of related topics, and provides room for recent developments. In its first incarnation, Part II held material on the Potts model and on spin-networks.

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