

<<概率论与数理统计>>

图书基本信息

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内容概要

本书从Pearson出版公司引进，由北京大学房祥忠等改编。

本书包括概率论入门，经典统计和现代统计的基础部分，具体内容包括：概率论，条件概率，随机变量及其分布，数学期望，几种特殊分布，估计，样本分布和评估，假设检验，范畴数据和非参数方法，线性统计模型，模拟。

本书难度适中，只需初等微积分知识就可通览，其概率部分是为统计服务的。

本书统计部分比国内教材丰富，引进了一些现代统计处理技术。

模型比较多，案例涉及面广，实用性强，统计思想阐述与算法更为具体。

本书是为高等院校理工科大学学生学习概率统计课程编写的教科书，科技人员也可从中获益。

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章节摘录

The concepts of chance and uncertainty are as old as civilization itself. People have always had to cope with uncertainty about the weather, their food supply, and other aspects of their environment, and have striven to reduce this uncertainty and its effects. Even the idea of gambling has a long history. By about the year 3500 B.C., games of chance played with bone objects that could be considered precursors of dice were apparently highly developed in Egypt and elsewhere. Cubical dice with markings virtually identical to those on modern dice have been found in Egyptian tombs dating from 2000 B.C. We know that gambling with dice has been popular ever since that time and played an important part in the early development of probability theory. It is generally believed that the mathematical theory of probability was started by the French mathematicians Blaise Pascal (1623-1662) and Pierre Fermat (1601 - 1665) when they succeeded in deriving exact probabilities for certain gambling problems involving dice. Some of the problems that they solved had been outstanding for about 300 years. However, numerical probabilities of various dice combinations had been calculated previously by Girolamo Cardano (1501 - 1576) and Galileo Galilei (1564 - 1642). The theory of probability has been developed steadily since the seventeenth century and has been widely applied in diverse fields of study. Today, probability theory is an important tool in most areas of engineering, science, and management. Many research workers are actively engaged in the discovery and establishment of new applications of probability in fields such as medicine, meteorology, photography from satellites, marketing, earthquake prediction, human behavior, the design of computer systems, finance, genetics, and law. In many legal proceedings involving antitrust violations or employment discrimination, both sides will present probability and statistical calculations to help support their cases.

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