Le Cam, Lucien
Asymptotic methods in statistical decision theory. (English) Zbl 0605.62002
Springer Series in Statistics. New York etc.: Springer-Verlag. XXVI, 742 p. DM 138.00 (1986).

The fast and impressive evolution of mathematical statistics during the past 40 years was determined to a large extent by the present author. Now, his life-work appeared as a monography. It is a book about mathematical problems arising in the context of statistics. The first chapters deal with statistical decision theory and with the mathematical theory of experiments which achieved their culmination and completion by the author's work. The central part is the extension of the notion of sufficiency to a general theory for the comparison of experiments. Originally, the asymptotic theory of statistics was separated from statistical decision theory. In the seventies, the author succeeded in unifying both theories establishing a general asymptotic decision theory. The major part of the present book contains the contributions of the author to this subject.

This book is not a text book for beginners. It is rather the master's report on his life's workshop of research. The author's style has been known for many years. From the reader he demands a lot. The reader has to be a connaisseur of classical statistics and argumentation. He must enjoy mathematics of any level of abstraction and sophistication. He must be willing to do his own proofs if the author considers them as not worth mentioning, which is not seldom the case. At the end the reader is rewarded by a host of ideas which is hard to match. It is to be wished that this book will be accepted by young mathematicians as a challenge. Until now, only a very little part of the author's work has found its way into the international research business, and this little part brought forth cascades of successor papers (on "contiguity", on "three lemmas of LeCam", on "the asymptotic minimax bound", etc.). The remaining 95 percent of the book will keep people busy for decades.

Reviewer: H.Strasser

MSC:

62B15	Theory of statistical experiments
62-02	Research exposition (monographs, survey articles) pertaining to statistics
62C05	General considerations in statistical decision theory

Cited in **28** Reviews
Cited in **296** Documents

Keywords:

sufficiency; asymptotic decision theory