

Book Review

H. Kaden: **Theoretical Fundamentals of Data Transmission (Theoretischen Grundlagen der Datenübertragung; in German)**, R. Oldenbourg, München–Wien, 1968, 219 p.

Many books have been published already, on communication theory, communication engineering, and data transmission. In the majority of those books the main emphasis is on problems like the transient behaviour of communication channels under the influence of deterministic input signals. This new book by Kaden distinguishes itself by the emphasis that is placed on the stochastic aspects of the problem. The first chapter is devoted to the spectral density of stochastic pulse series and the second chapter to the power spectral density of other stochastic time series (unmodulated as well as modulated ones). The characterization of different types of transmission paths, both for unmodulated and for modulated signals, is the topic of chapter 3. Here the transmission signal is deterministic. The transmission of stochastic data and the deformation of the signal in terms of distortion noise is the subject of chapter 4.

The last, fifth chapter, is devoted to the error probability in the reception of unmodulated and modulated impulse series.

This book is of interest to all engineers and scientists working in the general area of communication. The presentation of the material is clear and concise. This reviewer has only a minor objection to the book: in the very first pages the concept of selective information (entropy) is reviewed, but in the other parts of the book no use has been made of these information theoretical concepts. A discussion of the (channel) capacity of the different data transmission channels that have been discussed could have been of very much interest. In spite of this small objection: highly recommended.

As expected this publication of Oldenbourg is also typographically of a high standard.

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