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Regular variation. (English) [Zbl 0617.26001](#)

Encyclopedia of Mathematics and its applications, Vol. 27. Cambridge etc.: Cambridge University Press. xix, 491 p.; £ 50.00; \$ 75.00 (1987).

This book deals with the theory of regular variation of positive functions of a real variable and with its various applications. The extensive material is distributed in eight chapters: Karamata theory (60 p.), Further Karamata theory (65), de Haan theory (61), Abelian and Tauberian theorems (65), Mercerian theorems (24), Applications to Analytic Number Theory (13), Applications to Complex Analysis (27), Applications to Probability Theory (96). Each chapter ends with Miscellaneous examples which complete and enlarge the basic theory. There are also six short Appendices. References contain more than 600 units and each reference is followed by a list of page numbers where it is cited.

The reading of the book is facilitated by the Index of named theorems, the Index of notations and the General index. This book will be indispensable to all mathematicians interested in the theory of regular variation or in its different applications.

Reviewer: [S. Aljančić \(Beograd\)](#)

MSC:

- [26A12](#) Rate of growth of functions, orders of infinity, slowly varying functions
- [26A48](#) Monotonic functions, generalizations
- [26-02](#) Research exposition (monographs, survey articles) pertaining to real functions
- [11K65](#) Arithmetic functions in probabilistic number theory
- [11N60](#) Distribution functions associated with additive and positive multiplicative functions
- [30-02](#) Research exposition (monographs, survey articles) pertaining to functions of a complex variable
- [40E05](#) Tauberian theorems
- [60-02](#) Research exposition (monographs, survey articles) pertaining to probability theory
- [60Fxx](#) Limit theorems in probability theory

Cited in **27** Reviews
Cited in **1555** Documents

Keywords:

[regular variation](#); [Karamata theory](#); [de Haan theory](#); [Abelian and Tauberian theorems](#); [Mercerian theorems](#)