of upper-lower solutions and monotone iterations. Periodic and terminal boundary conditions are included in the discussion. Chapter 3 is concerned with elliptic equations, and Chapter 4 with parabolic equations. A major part of these two chapters is devoted to the existence problem for systems where the nonlinear reaction function depends on u as well as on ∇u. These two chapters cover the main theme of the book and they deserve special attention. The final chapter treats the hyperbolic equation of first order. Here the method of upper-lower solutions is shown to be useful for the construction of a Lyapunov function. The book is self-contained, with an appendix giving most of the necessary material from the theory of linear partial differential equations. The bibliography is extensive, and it leads the reader to various references for more detailed discussions on related subjects.

Although there are some minor points which need more explanation or clarification, the book is well written and is a much needed and timely addition to the current literature, especially in the area of nonlinear reaction-diffusion systems. Despite the distinct characteristics among second-order elliptic, parabolic and hyperbolic equations, the authors have successfully established a unified approach and cast these problems into the same framework of monotone technique. This book may well stimulate further research in other areas of differential and integral equations and related fields. In fact, the monotone method and its associated upper and lower solutions have already been used for the treatment of numerical solutions of nonlinear parabolic and elliptic equations. It is likely that both the analytical techniques and the numerical schemes will receive even greater attention in various applied sciences.

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K-theory for operator algebras, by Bruce Blackadar, Mathematical Sciences Research Institute Publications, vol. 5, Springer-Verlag, New York, Berlin, Heidelberg, London, Paris, Tokyo, 1986, 338 pp., $28.00. ISBN 0-387-96391-x

The development of K-theory has been one of the great unifying forces in mathematics during the past thirty years, bringing together ideas from geometry, algebra, and operator theory in fruitful and often unexpected ways, and stimulating each of these subjects through the importation of insights and techniques from other areas.

It is commonly agreed that K-theory originated with the work of Grothendieck in the late 1950s in which he proved a generalized Riemann-Roch