form and later by Schmidt (1907) in connection with reflection and transmission of light through inhomogeneous media. Ambarzumian (1943) articulated the approach more clearly and exploited it further, but it was Chandrasekhar who, in his well-known book *Radiative transfer* (Dover, New York, 1960, first published in 1950) stated in full generality the idea described above and called it "principles of invariance". Chandrasekhar proceeded in his book with the exploitation of the principles of invariance extracting a phenomenal amount of information and solving several problems in transport theory that were considered impossible to solve up to the late 1940's. In an interesting article (J. Mathematical Phys. **41** (1962), 1–41), R. M. Redheffer gives a lucid survey of some of the early developments, as well as his own contributions, up to 1962. The authors of the present book have participated vigorously in the exploitation of the imbedding idea in a variety of contexts and have written several books and papers on it and its applications in addition to the present one.

The first four chapters explain in a very simple context the basic idea of imbedding and the mechanics of converting boundary value problems to initial value problems. The remaining eight chapters deal with more specific applications such as random walks, wave propagation, calculation of eigenvalues, WKB and integral equations. Many of the devices and techniques presented in this book may be known to a lot of mathematicians, perhaps by different names (or no names at all). The purpose of the book is, however, to reach a wide audience and this will no doubt be accomplished because the writing is lucid and with a lot of redundancy to make reading easy.

Nevertheless it seems that too much space is occupied with generalities while not enough substantial examples are treated. This should be contrasted with Chandrasekhar's book where the general ideas take up a few pages and nearly half the book is devoted to detailed analysis and computations.

Mathematicians may find interesting, however, the several possible applications of the imbedding idea and, one never knows, it may be useful in their own research also.

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Cohomology theories for compact abelian groups, by K. H. Hofmann and P. S. Mostert, Springer-Verlag, New York, 1973, 236 pp., $18.50.

Every compact abelian group is a projective limit of compact abelian Lie groups, each of which is the product of a torus and a finite group. That is, one obtains the most general compact abelian group by starting with the circle group and the finite cyclic groups, then taking products and limits. Thus, in studying invariants for compact abelian groups one should often be able to compute an invariant in general once one knows it for these simple building blocks and understands how it is treated by the product and limit operations.