

and Hermite polynomials, functions of the parabolic cylindre, etc.). In Chapters 3–5 the realizations of the algebras $G(1, 0)$, $G(0, 1)$, $G(0, 0)$ are discussed in detail together with the corresponding relations for special functions. Thus from the formula $T(g)e_k = \sum_m t_{km}(g)e_m$ are obtained the generating functions for various classes of special functions. A great number of relations arise from the decomposition of Kronecker products of irreducible representations. These and certain other results are due to the author of this book and appear for the first time in the monograph literature. The author also has established an interesting connection between the realizations of a Lie algebra and the Infeld-Helly method of factorization for the solution of differential equations.

There is no doubt that Miller's book will be of great interest and usefulness for the specialists in group representation theory and in special functions. It will also be useful for physicists since the Lie algebras dealt with in this book often occur in physical applications. It is to be regretted that certain aspects connected with the problems of the work, in particular the connections between representation theory and integral transforms, could not be taken into consideration.

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Boundary Value Problems of Mathematical Physics and Related Aspects of Function Theory, Part I. EDITED BY V. P. IL'IN. (Translation of Volume 5 of Stekov Institute, Seminars in Mathematics). Consultant's Bureau, New York (1969). vii + 96 pp.

This book is a collection of ten papers of well known authors in the field of Boundary Value Problems of Mathematical Physics. The papers are on both boundary value problems for equations of mathematical physics and on related questions of function theory and functional analysis. The first group of papers is concerned with a priori estimates and they investigate the solvability of boundary value problems for linear and quasilinear elliptic and parabolic equations. The second group of papers deals with classes of functions arising in the theory of partial differential equations. Most of the papers contain proofs of the result therein stated. One should express a pity that such important information is available only after two years of being published in Russian, and that the translation is not always originally correct, e.g. "compact carrier" instead of "compact support" (see p. 96) which proves that it has not been done by a professional mathematician.

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