



## A New Class of Analysis-Based Fast Transforms

By Michael O'Neil

LAP Lambert Acad. Publ. Aug 2009, 2009. Taschenbuch. Book Condition: Neu. 220x150x6 mm. This item is printed on demand - Print on Demand Neuware - This book introduces a new approach to the rapid numerical application of certain types of linear operators to arbitrary vectors. The scheme is applicable to many classical integral transforms, and to the expansions associated with most families of classical special functions, including, among others, Bessel functions, Legendre, Hermite, and Laguerre polynomials, Spherical Harmonics, and Prolate Spheroidal Wave functions. Calculations of this type are encountered in geophysical modeling, submarine warfare, quantum mechanical calculations, and simulation of radar phenomena. The performance of the algorithm is illustrated via a number of numerical examples. The material presented in this book assumes a working knowledge of linear algebra and calculus. Graduate level students and practitioners in the fields of scientific computing, numerical linear algebra, and mathematical physics will find this book useful. 100 pp. Englisch.



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