



2011, VI, 222 p.

Printed book

Hardcover

84,99 € | £74.99 | \$109.99

^[1]90,94 € (D) | 93,49 € (A) | CHF 100,50

Softcover

84,99 € | £74.99 | \$109.99

^[1]90,94 € (D) | 93,49 € (A) | CHF 100,50

eBook

71,68 € | £59.99 | \$84.99

^[2]71,68 € (D) | 71,68 € (A) | CHF 80,00

 Available from your library or
springer.com/shop

MyCopy ^[3]

Printed eBook for just

€ | \$ 24.99

springer.com/mycopy

Prof. Fabrizio Colombo Politecnico di Milano, Irene Sabadini, Daniele C. Struppa

Noncommutative Functional Calculus

Theory and Applications of Slice Hyperholomorphic Functions

Series: Progress in Mathematics

- **This book shows that the Riesz-Dunford functional calculus can be extended to n -tuples of not necessarily commuting operators. To do so, the authors develop a completely new spectral theory.**
- **The fundamental technical tool is the newly developed theory of slice hyperholomorphic functions (which includes functions of a paravector variable with values in a Clifford algebra and quaternionic valued functions of a quaternionic variable).**
- **The monograph is based on results by the authors and thus it is completely original, except for a few pages of basic material and an Appendix.**

This book presents a functional calculus for n -tuples of not necessarily commuting linear operators. In particular, a functional calculus for quaternionic linear operators is developed. These calculi are based on a new theory of hyperholomorphicity for functions with values in a Clifford algebra: the so-called slice monogenic functions which are carefully described in the book. In the case of functions with values in the algebra of quaternions these functions are named slice regular functions.

Except for the appendix and the introduction all results are new and appear for the first time organized in a monograph. The material has been carefully prepared to be as self-contained as possible. The intended audience consists of researchers, graduate and postgraduate students interested in operator theory, spectral theory, hypercomplex analysis, and mathematical physics.

Order online at springer.com / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: customerservice@springernature.com. / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: customerservice@springernature.com.

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

