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Descrizione fisica	1 online resource (443 p.)
Collana	Operator theory, advances and applications ; ; v. 185
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Soggetti	Bergman spaces Commutative algebra Toeplitz operators
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preliminaries -- Prologue -- Bergman and Poly-Bergman Spaces -- Bergman Type Spaces on the Unit Disk -- Toeplitz Operators with Commutative Symbol Algebras -- Toeplitz Operators on the Unit Disk with Radial Symbols -- Toeplitz Operators on the Upper Half-Plane with Homogeneous Symbols -- Anatomy of the Algebra Generated by Toeplitz Operators with Piece-wise continuous Symbols -- Commuting Toeplitz Operators and Hyperbolic Geometry -- Weighted Bergman Spaces -- Commutative Algebras of Toeplitz Operators -- Dynamics of Properties of Toeplitz Operators with Radial Symbols -- Dynamics of Properties of Toeplitz Operators on the Upper Half-Plane: Parabolic Case -- Dynamics of Properties of Toeplitz Operators on the Upper Half-Plane: Hyperbolic Case.
Sommario/riassunto	This book is devoted to the spectral theory of commutative C*-algebras of Toeplitz operators on the Bergman space and its applications. For each such commutative algebra there is a unitary operator which reduces Toeplitz operators from this algebra to certain multiplication operators, thus providing their spectral type representations. This yields a powerful research tool giving direct access to the majority of the important properties of the Toeplitz operators studied herein, such

as boundedness, compactness, spectral properties, invariant subspaces. The presence and exploitation of these spectral type representations forms the core for many results presented in the book. Among other results it contains a criterion of when the algebras are commutative on each commonly considered weighted Bergman space together with their explicit descriptions; a systematic study of Toeplitz operators with unbounded symbols; a clarification of the difference between compactness of commutators and semi-commutators of Toeplitz operators; the theory of Toeplitz and related operators with symbols having more than two limit values at boundary points; and a kind of semi-classical analysis of spectral properties of Toeplitz operators. The book is addressed to a wide audience of mathematicians, from graduate students to researchers, whose primary interests lie in complex analysis and operator theory. .