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Nota di contenuto	Preface -- 1. Background. 1.1. Banach algebra. 1.2. K-theory of Banach algebra. 1.3. The basic of complex geometry. 1.4. Some results on Cowen-Douglas operators. 1.5. Strongly irreducible operators. 1.6. Compact perturbation of operators. 1.7. Similarity orbit theorem. 1.8. Toeplitz operator and Sobolev space -- 2. Jordan standard theorem and K[symbol]-group. 2.1. Generalized Eigenspace and minimal idempotents. 2.2. Similarity invariant of matrix. 2.3. Remark -- 3. Approximate Jordan theorem of operators. 3.1. Sum of strongly irreducible operators. 3.2. Approximate Jordan decomposition theorem. 3.3. Open problems. 3.4. Remark -- 4. Unitary invariant and similarity invariant of operators. 4.1. Unitary invariants of operators. 4.2. Strongly irreducible decomposition of operators and similarity invariant: K [symbol]-group. 4.3. (SI) decompositions of some classes of operators. 4.4. The commutant of Cowen-Douglas operators. 4.5. The Sobolev disk algebra. 4.6. The operator weighted shift. 4.7. Open problem. 4.8. Remark -- 5. The similarity invariant of Cowen-Douglas operators. 5.1. The Cowen-Douglas operators with index 1. 5.2. Cowen-Douglas operators with index n. 5.3. The commutant of Cowen-Douglas operators. 5.4. The commutant of a classes of operators. 5.5. The (5l)

representation theorem of Cowen-Douglas operators. 5.6. Maximal ideals of the commutant of Cowen-Douglas operators. 5.7. Some approximation theorem. 5.8. Remark. 5.9. Open problem -- 6. Some other results about operator structure. 6.1. K -group of some Banach algebra. 6.2. Similarity and quasisimilarity. 6.3. Application of operator structure theorem. 6.4. Remark. 6.5. Open problems.

Sommario/riassunto

This book exposes the internal structure of non-self-adjoint operators acting on complex separable infinite dimensional Hilbert space, by analyzing and studying the commutant of operators. A unique presentation of the theorem of Cowen-Douglas operators is given. The authors take the strongly irreducible operator as a basic model, and find complete similarity invariants of Cowen-Douglas operators by using K -theory, complex geometry and operator algebra tools.
