

## Functional-theoretic methods in complex spaces singularities

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**Abstract:** The definition of Taylor joint spectrum of several commuting operators suggests a way to construct an infinite-dimensional free resolution of a coherent sheaf on a complex space. This approach leads to functional-theoretic interpretation of some important theorems of the theory of complex spaces: Riemann-Roch theorem, Grauert direct image theorem etc. In turn, some results in multioperator theory can be obtained by the use of reasons coming from the theory of coherent sheaves on complex manifolds.