

Shift invariant subspaces in Bergman spaces.

Serguei Shimorin

Abstract

The classical Beurling theorem combined with representation of inner functions gives a complete description of the lattice of invariant subspaces in the Hardy space in the disk. But in the case of Bergman spaces, no such a description is available and the lattice of shift invariant subspaces is much more complicated. In the course, we shall discuss different issues related to this lattice. Following topics will be covered: dual algebras approach and universal model properties; Bergman-inner functions and factorization; explicit constructions of invariant subspaces of big index; approximate spectral synthesis; Beurling-type theorems.