

Beurling's theorem on the symmetrized bidisc

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Abstract

Let $H^2(\mathbb{G}_2)$ denote the Hardy space on the symmetrized bidisc \mathbb{G}_2 . We provide the necessary and sufficient conditions for an invariant subspace of $H^2(\mathbb{G}_2)$ to be of the form $\phi H^2(\mathbb{G}_2)$, ϕ being an inner function on \mathbb{G}_2 . As an application of it, we model Γ -contractions by the compressions (on $\phi H^2(\mathbb{G}_2)^\perp$) of coordinate multiplication operators of $H^2(\mathbb{G}_2)$.

This is a joint work with Shibananda Biswas and Subrata Shyam Roy.