

Interpolation and duality in algebras of multipliers on the ball

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We study the multiplier algebras $A(\mathcal{H})$ obtained as the closure of the polynomials on certain reproducing kernel Hilbert spaces \mathcal{H} on the ball \mathbb{B}_d of \mathbb{C}^d . Our results apply, in particular, to the Drury–Arveson space, the Dirichlet space and the Hardy space on the ball. We first obtain a complete description of the dual and second dual spaces of $A(\mathcal{H})$ in terms of the complementary bands of Henkin and totally singular measures for $\text{Mult}(\mathcal{H})$. This is applied to obtain several definitive results in interpolation. In particular, we establish a sharp peak interpolation result for compact $\text{Mult}(\mathcal{H})$ -totally null sets as well as a Pick and peak interpolation theorem.

This is joint work with Michael Hartz.