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The Biduality Problem and M-Ideals in Weighted Spaces of Holomorphic Functions

Given a weight v on an open subset U of $\mathbf{C}^n$, $\mathcal{H}_v(U)$ (resp. $\mathcal{H}_{v_o}(U)$) denotes the Banach space of holomorphic functions f on U such that vf is bounded on U (resp. converges to 0 on the boundary of U). We show that $\mathcal{H}_v(U)$ is canonically isometrically isomorphic to the bidual of $\mathcal{H}_{v_o}(U)$ if and only if $\mathcal{H}_{v_o}(U)$ is an M-ideal in $\mathcal{H}_v(U)$ and the associated weights $\tilde{v}_o$ and $\tilde{v}$ coincide.