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Composition Operators on Weighted Bergman and S^p Spaces.

Let φ be an analytic self-map of open unit disk \mathbb{D} . The operator given by $(C_\varphi f)(z) = f(\varphi(z))$, for $z \in \mathbb{D}$ and f analytic on \mathbb{D} is called composition operator. For each $p \geq 1$, let S^p be the space of analytic functions on \mathbb{D} whose derivatives belong to the Hardy space H^p . For $\alpha > -1$ and $p > 0$ the weighted Bergman space A_α^p consists of all analytic functions in $L^p(\mathbb{D}, dA_\alpha)$, where dA_α is the normalized weighted area measure. In this talk, we characterize boundedness and compactness of composition operators act between weighted Bergman A_α^p and S^q spaces, $1 \leq p, q < \infty$. Moreover, we give a lower bound for the essential norm of composition operator from A_α^p into S^q spaces, $1 \leq p \leq q$. (Received January 18, 2015)