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Waleed K. Al-Rawashdeh* (walrawashdeh@mttech.edu), Department of Mathematical Sciences, Montana Tech, Butte, MT 59701. *Composition Operators between 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 $dA_\alpha(z) = \frac{(1+\alpha)}{\pi} (1 - |z|^2)^\alpha dA(z)$ 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 September 21, 2012)