

COMPACT WEIGHTED COMPOSITION OPERATORS ON THE HARDY SPACE

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ABSTRACT. Suppose ψ is an analytic function on the open unit disk \mathbb{D} and φ is an analytic self-map of \mathbb{D} , the weighted composition operator is defined on the Hardy space $H^2(\mathbb{D})$ as follows:

$$(W_{\psi,\varphi}f)(z) = \psi(z)f(\varphi(z)),$$

where $z \in \mathbb{D}$ and $f \in H^2(\mathbb{D})$. In this talk we provide necessary and sufficient conditions for certain classes of φ and ψ such that $W_{\psi,\varphi}$ is compact or Hilbert-Schmidt. This work was done jointly with Animesh Sarker.

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