COMPACT WEIGHTED COMPOSITION OPERATORS
ON THE HARDY SPACE

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Abstract. Suppose \( \psi \) is an analytic function on the open unit disk \( \mathbb{D} \) and \( \varphi \) 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 \( \varphi \) and \( \psi \) such that \( W_{\psi, \varphi} \) is compact or Hilbert-Schmidt. This work was done jointly with Animesh Sarker.

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