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Soumyadip Acharyya* (acharyys@erau.edu) and **Timothy Ferguson**. *Algebraic Combinations of Composition and Differentiation Operators on Analytic Function Spaces.*

Let φ be an analytic self-map of the open unit disk \mathbb{D} and u be an analytic function on \mathbb{D} . The linear map uC_φ on $H(\mathbb{D})$ defined by

$$(uC_\varphi)(f)(z) = u(z)(f \circ \varphi)(z), \quad f \in H(\mathbb{D}), z \in \mathbb{D},$$

is called the weighted composition operator with weight u and symbol φ . For a positive integer n , D^n stands for the iterated differentiation operator defined by $D^n(f) = f^{(n)}$.

The talk will provide characterizations of order - boundedness and compactness of sums of products of weighted composition and differentiation operators. We will discuss the testing functions used in the proof. These functions turn out to be solutions to an interpolation problem. (Received September 20, 2017)