Let \( \varphi \) be an analytic self-map of the open unit disc \( \mathbb{D} \) and \( u \) be a measurable (not necessarily analytic) complex-valued function on \( \mathbb{D} \). The linear map \( uC_\varphi \) on \( H(\mathbb{D}) \) defined by

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

is called the weighted composition operator with weight \( u \) and symbol \( \varphi \). For \( \alpha > -1 \), the weighted Bergman Space \( A^2_\alpha \) consists of all analytic functions in \( L^2(\mathbb{D}, dA_\alpha) \).

We study the difference of two weighted composition operators \( uC_\varphi - vC_\psi \). We are particularly interested on characterizing the Hilbert-Schmidtness of that operator acting on \( A^2_\alpha \). In general, when \( u \) and \( v \) are both arbitrary analytic functions, the problem seems to be challenging. The special case of \( u = 1 \) and \( v = 1 \) (the unweighted case) has been solved by Choe, Hosokawa and Koo in 2010. We will briefly discuss an alternative proof of their result. Then we will discuss various different cases where \( u \) and \( v \) are of some specific forms. (Received September 06, 2015)