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ABSOLUTELY CONTINUOUS MEASURES AND COMPACT COMPOSITION OPERATOR ON SPACES OF CAUCHY TRANSFORMS

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Abstract. The analytic self map of the unit disk $\mathbf{D}$, φ is said to induce a composition operator C_φ from the Banach space X to the Banach Space Y if $C_\varphi(f) = f \circ \varphi \in Y$ for all $f \in X$. For $z \in \mathbf{D}$ and $\alpha > 0$ the families of weighted Cauchy transforms F_α are defined by $f(z) = \int_{\mathbf{T}} K_x^\alpha(z) d\mu(x)$ where $\mu(x)$ is complex Borel measures, x belongs to the unit circle $\mathbf{T}$ and the kernel $K_x(z) = (1 - \overline{x}z)^{-1}$. In this paper we will explore the relationship between the compactness of the composition operator C_φ acting on F_α and the complex Borel measures $\mu(x)$.

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