1107-47-316 **Maria Neophytou*** (maria.neophytou@belmont.edu), Department of MTH/CSC, Belmont University, 1900 Belmont Boulevard, Nashville, TN 37212. *Eigenvalues of Adjoints of Certain Composition Operators on the Hardy Space.*

Let H^2 be the Hardy-Hilbert space. If φ is an analytic self-map of the unit disk and ψ is analytic on the disk, the composition operator C_φ with symbol φ is defined by $C_\varphi f = f \circ \varphi$, and the weighted composition operator $W_{\psi,\varphi}$ by $W_{\psi,\varphi} f = \psi(f \circ \varphi)$, for f in H^2. We show that there is an entire disk of eigenvalues for the adjoints of composition operators with certain symbols φ that have a fixed point inside the disk and a fixed point on the boundary. We also show that those eigenvalues have infinite multiplicity, and we identify an invariant subspace for the adjoint on which it acts like a weighted shift. Finally, we generalize these results to weighted composition operators.

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