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Derek A Thompson* (theycallmedt@gmail.com), Derek Thompson, 4253 Willow Bend Dr., Apt. D, Beech Grove, IN 46107. *Restrictions of Composition Operators to Invariant Subspaces*. Preliminary report.

If ϕ is an analytic map of the unit disk into itself, the composition operator C_ϕ is the operator on the Hardy space H^2 given by $C_\phi f = f \circ \phi$. Though we have learned much about composition operators and their effect on spaces of analytic functions, little is still known about the restrictions of these operators to invariant subspaces. For example, when the symbol of a composition operator on the Hardy space of the disk fixes the origin, the subspaces resulting from the (right) unilateral shift are all invariant for the operator. What are the norms of these restrictions? What are their spectra? Are they ever unitarily equivalent? We disprove unitary equivalence in particular cases and explore the possibility in others. (Received September 14, 2012)