1113-47-305 **Brittney R. Miller*** (mille753@purdue.edu). *Kernels of Adjoints of Composition Operators on the Hardy Space.* Preliminary report.

Let φ be an analytic function from $\mathbb{D}$ to itself. Then, the composition operator C_φ, with symbol φ, is defined by $C_\varphi f = f \circ \varphi$ for f in a Hilbert space of analytic functions on $\mathbb{D}$. In 2008, Hammond, Moorhouse, and Robbins gave an explicit formula for the adjoint C_φ^* in the Hardy space. If φ is not univalent, it is well known that the kernel of C_φ^* is infinite dimensional. In this talk, I will show how their formula leads to a classification of functions in $\ker C_\varphi^*$ for certain classes of symbols φ. (Received August 25, 2015)