1086-47-1609 **Raul E. Curto*** (`raul-curto@uiowa.edu`), Department of Mathematics, University of Iowa, Iowa City, IA 52242. *Multiplication operators on reproducing kernel Hilbert spaces on Reinhardt domains in* $\mathbb{C}^2$.

Consider a reproducing kernel Hilbert space $H(K)$ on a bounded Reinhardt domain $\Omega \subset \mathbb{C}^2$, with kernel of the form $K(\mathbf{z},\mathbf{w}) = \sum_{\mathbf{m}\in\mathbb{Z}_+^2} \frac{\mathbf{z}^{\mathbf{m}}\mathbf{w}^{\mathbf{m}}}{A_{\mathbf{m}}}$. Assume that the coordinate functions z_1 and z_2 are multipliers on $H(K)$. Assume further that $A_{m_1+1,m_2+1} = A_{1,1}\gamma_{m_1+m_2}[\alpha]$, where α is a bounded sequence of positive numbers and $\{\gamma_k\}_{k\geq 0}$ is the associated sequence of moments; that is, $\gamma_0[\alpha] := 1,\ \gamma_{k+1}[\alpha] := \alpha_k^2\gamma_k[\alpha]$ $(k \geq 0)$.

The pair $M_{\mathbf{z}} \equiv (M_{z_1}, M_{z_2})$ is thus a 2-variable weighted shift whose restriction to the invariant subspace $z_1z_2H(K)$ can be regarded as a 2-variable embedding of the unilateral weighted shift W_α. In joint work with S.H. Lee and J. Yoon, we study (joint) spectral and structural properties of $M_{\mathbf{z}}$ acting on $H(K)$. For instance, we prove that $M_{\mathbf{z}}$ is subnormal if and only if some integer power $M_{z_1}^{k_1}M_{z_2}^{k_2}$ is subnormal. (Received September 23, 2012)