1125-41-1050 **Keaton Hamm*** (keaton.hamm@vanderbilt.edu). *Interpolation in Shifted Function Spaces.*

We consider the problem of interpolating functions from shift-invariant spaces and more general function spaces of the form

$$V(\psi, \mathcal{X}) := \left\{ \sum_{j \in \mathbb{Z}} c_j \psi(\cdot - x_j) : (c_j) \in \ell_2(\mathbb{Z}) \right\}$$

where the interpolants themselves lie in a similar space of translates of a given kernel. We discuss conditions on the shift kernel ψ such that the sampling problem at certain nonuniform point-sets $\mathcal{X} \subset \mathbb{R}$ is well-defined, and additionally give sufficient conditions on a family of kernels $(\phi_\alpha)_{\alpha \in A}$ such that one can recover $f \in V(\psi, \mathcal{X})$ from interpolants $I_\alpha f \in V(\phi_\alpha, \mathcal{Y})$ without necessarily requiring that $\mathcal{X} = \mathcal{Y}$. (Received September 14, 2016)