1131-46-101   **Daniel Freeman*** (`dfreema7@slu.edu`) and **Darrin Speegle**. *The discretization problem for continuous frames and coherent states.*

Functions on $L_2([0, 1])$ can be analyzed continuously through the Fourier transform or discretely through Fourier series and sampling the Fourier transform only at the integers. We consider what other continuous representations can be sampled to obtain discrete representations. Using the results of Marcus-Spielman-Srivastava in their solution of the Kadison-Singer problem, we give a complete characterization of when a continuous frame for a Hilbert space may be sampled to obtain a discrete frame. In particular, every bounded continuous frame may be sampled to obtain a discrete frame. This solves the discretization problem as posed by Ali, Antoine, and Gazeau in their physics textbook: Coherent States, Wavelets, and Their Generalizations. (Received July 07, 2017)