Creating, imaging, and analyzing magnetic structures in a spinor BEC SEAN LOURETTE, G. EDWARD MARTI, RYAN OLF, ANDREW MACRAE, UC Berkeley — The rich and varied order parameter spaces of spinor Bose-Einstein Condensates admit a wide range of collective excitations, non-trivial topological structures, and out-of-equilibrium dynamics. However, creating, imaging, and interpreting such states can be difficult. Here, we present techniques developed in our labs to create spinor structures and to image them *in situ* with high signal to noise, as well as results from applying these techniques to a spin-1 ^{87}Rb BEC. Our imaging technique accesses a large part of the order parameter space in a single run, simplifying the task of interpreting and analyzing complex spin structures.

Sean Lourette
UC Berkeley