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**Construction of a new apparatus to study 2D superfluid dynamics in BECs** ZACH NEWMAN, JESSICA DOEHRMANN, BRIAN P. ANDERSON, University of Arizona — We are in the process of constructing a new apparatus at the University of Arizona with the intent of studying two-dimensional superfluid dynamics, quantum turbulence, and vortex dynamics in highly oblate Bose-Einstein condensates. The trap geometries used in such experiments enable the application of high resolution imaging methods that permit direct, in situ detection of vortices and wave phenomena in BECs. In this poster, we describe our design of a new apparatus aimed specifically at studying 2D superfluid phenomena, discuss technical challenges, and present progress towards the completion of our new apparatus.

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