Polarized Fermi gases in an axially symmetric trap: A Bogoliubov-deGennes analysis WILLIAM SCHNEIDER, RAJDEEP SEN-SARMA, MOHIT RANDERIA, The Ohio State University — We study the T=0 Fermi gas with an unequal population of up and down spins in an axially symmetric three-dimensional trap. Our motivation is to understand the differences in the experimental data from the MIT and Rice groups, which might arise from the rather different asymmetries of the trapping potentials. Using a fully self-consistent numerical solution of the Bogoliubov deGennes equations, we address the question of the validity of the local density approximation (LDA) as a function of asymmetry. We will present results for the spatial variations of the up and down densities and the superfluid order parameter as a function of polarization, trap asymmetry and interaction strength in the vicinity of unitarity.

William Schneider
The Ohio State University

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