

Abstract Submitted
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A single impurity atom in a two-dimensional Fermi gas JESPER LEVINSEN, University of Cambridge, MEERA PARISH, University College London — We consider a single impurity atom immersed in a Fermi gas in two dimensions and interacting via an attractive, short-range potential. Using variational wave functions for polarons, molecules, trimers, and quadrupers, we arrive at the ground state phase diagram as a function of mass ratio and interaction strength. We show that the phase diagram includes a Fulde-Ferrell-Larkin-Ovchinnikov phase for experimentally relevant mass ratios.

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