

Abstract Submitted
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Enhanced Mobility in a two-species ultracold atomic system

DEREK LEE, Imperial College London, MIKE GUNN, NICOLA WILKIN, University of Birmingham — We consider the mobility of two species of interacting atoms in an optical lattice. The behaviour of the system is radically modified as a function of the relative detuning of the optical lattice to resonances of the two atomic species. We will discuss the polaronic and pairing physics in such systems. We will also present proposals for possible experimental realizations of our theoretical model using Feshbach resonances.

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