

Abstract Submitted
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Spin-Orbit Coupled Fermions in Harmonic Trap DOGA MURAT KURKCUOGLU, Georgia Southern University, Georgia Inst of Tech — After the realization of artificial spin-orbit coupling in ultracold atoms experimentally, there is an interest in spin-orbit coupled systems in ultracold atoms. In this abstract, I will discuss the emergence of two-body bound states between two Fermi atoms in the presence of spin-orbit coupling and Zeeman fields. The fermions are assumed to have only two internal states and to have attractive contact (zero-ranged) interactions. We also add an isotropic three-dimensional harmonic trap to the system, since it is the experimentally relevant case. For such a system, I will describe the few-body solutions and the effective masses of the bound-states as a function of spin-orbit and Zeeman fields.

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