

Abstract Submitted
for the DAMOP14 Meeting of
The American Physical Society

Energy spectrum of trapped two-atom system with spin-orbit coupling¹ D. BLUME, Q. GUAN, X.Y. YIN, S.E. GHARASHI, Washington State University — Ultracold atomic gases provide a novel platform with which to study spin-orbit coupling, a mechanism that plays a central role in the nuclear shell model, atomic fine structure and two-dimensional electron gases. We introduce a theoretical framework that allows for the efficient determination of the eigenenergies and eigenstates of a harmonically trapped two-atom system with short-range interaction subject to spin-orbit coupling. Energy spectra for experimentally relevant parameter combinations will be presented and future extensions will be discussed.

¹Supported by the NSF.

D. Blume
Washington State University

Date submitted: 31 Jan 2014

Electronic form version 1.4