

Abstract Submitted  
for the DNP13 Meeting of  
The American Physical Society

**On the extraction of tensor force from lattice QCD** ZOHREH DAVOUDI, RAUL BRICENO, University of Washington - Seattle, THOMAS LUU, Lawrence Livermore National Laboratory, Livermore, CA, MARTIN SAVAGE, University of Washington - Seattle — The finite volume spectrum of the two-nucleon system in  $3S_1$ - $3D_1$  channel not only gives access to the nucleon-nucleon scattering phase shifts but also to the S-D mixing parameter of this channel. By studying the finite volume energy quantization condition of the two-nucleon system with non-zero center of mass momenta, I will introduce a spectral quantity that is sensitive to the S-D mixing in the deuteron channel. I will discuss the implication of the results presented for the extraction of the tensor force in future lattice QCD calculations.

Zohreh Davoudi  
University of Washington - Seattle

Date submitted: 01 Jul 2013

Electronic form version 1.4