Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Study of a Quantum Dot in an Excited State MARLINA SLAMET, Sacred Heart University, VIRAHT SAHNI, CUNY-Brooklyn Coll — We have studied the first excited singlet state of a quantum dot via quantal density functional theory (QDFT). The quantum dot is represented by a 2D Hooke's atom in an external magnetostatic field. The QDFT mapping is from an excited singlet state of this interacting system to one of noninteracting fermions in a singlet ground state. The results of the study will be compared to (a) the corresponding mapping[1] from a ground state of the quantum dot and (b) to the similar mapping[2] from an excited singlet state of the 3D Hooke's atom. [1] T. Yang, X.-Y. Pan, and V. Sahni, PRA **83**, 042518 (2011) [2] M. Slamet and V. Sahni, IJQC **85**, 436 (2001)

Viraht Sahni
CUNY-Brooklyn Coll

Date submitted: 04 Nov 2015 Electronic form version 1.4