Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Excited States of Generalized Moments Expansion VASSILIOS FESSATIDIS, Fordham University, JAY D. MANCINI, Kingsborough College of CUNY, SAMUEL P. BOWEN, Chicago State University, ROBERT K. MURAWSKI, Texas A&M University — A newly developed generalized moments expansion, GMX(m, n), based on the "t-expansion" of Horn and Weinstein has proved useful in the calculation of the ground–state energy of a number of Hamiltonian systems in both quantum chemistry and physics. As has been shown elsewhere (Phys. Lett. **A**349, 320 [2006]) the well-known Connected Moments Expansion (CMX) of Cioslowski (PRL 58, 83 [1987]) is just a special case of GMX = GMX$(1, 1)$. A number of years ago Markoš and Olejník were able to generalize the CMX to include excited states (PRD 42, 2943 [1990]). Here we have extended this work to the GMX with applications to a number of systems.

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Date submitted: 16 Nov 2006 Electronic form version 1.4