Abstract Submitted
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Investigation of ^{198,200}Hg isotopes A. DIAZ VARELA, E.T. RAND, P.E. GARRETT, V. BILDSTEIN, C. BURBADGE, B. HADINIA, D.S. JAMIESON, B. JIMEDDORJ, A.T. LAFFOLEY, K.G. LEACH, A.D. MACLEAN, A. RADICH, C.E. SVENSSON, University of Guelph, G.C. BALL, TRIUMF, T. FAESTERMANN, Technische Universität München, R. HERTENBERGER, H.-F. WIRTH, Ludwig-Maximilians-Universität München, B. REBEIRO, S. TRIAMBAK, University of the Western Cape — Limits on the electric dipole moment (EDM) continue to decrease for ^{199}Hg, which provides the most stringent upper limit for a nuclear EDM to date. The $E3$ and $E1$ strength distributions to the ground state of ^{199}Hg, and $E2$ transitions among excited states, would be ideal information to constrain theoretical models of the ^{199}Hg Schiff moment. The high level density of ^{199}Hg makes those determinations challenging, however similar information can be obtained from exploring surrounding even-even Hg isotopes. As part of a campaign to study the ^{198,200}Hg isotopes, a number of experiments have been performed using the Q3D spectrograph at the Maier-Leibnitz Laboratory, with 22 MeV deuteron beams impinging on enriched Hg^{32}S targets. Inelastic scattering allows us to probe the desired $E2$ and $E3$ matrix elements, while the ^{198}Hg(d,p) and ^{200}Hg(d,t) reactions provide information on the neutron single-particle states of ^{199}Hg.

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