Abstract Submitted
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Investigation of octupole vibrations in even-even rare earth nuclei using (p,pg)[1] M. ELVERS, WNSL/Uni Koeln, D. SAVRAN, TU Darmstadt, T. AHN, V. ANAGNOSTATOU, N. COOPER, P. GODDARD, A. HEINZ, G. ILIE, D. RADECK, V. WERNER, WNSL, Yale, J. ENDRES, C. KUEPPERSBUSCH, A. ZILGES, Uni Koeln, T. AHMED, C. DENG, E. JIANG, N. SHENKOV, Univ. of Richmond — Octupole vibrations in even-even rare earth nuclei have been studied for the last decades but many questions still remain unresolved. An excellent method to excite those states is by means of inelastic proton and deuteron scattering as it has been done in plenty rare earth nuclei. In those experiments, however, only the energy of excited octupole states was measured but not the electromagnetic transitions. The branching ratios are crucial to obtain further information on the inner structure of those vibrations such as the mixing of the K quantum number. One drawback of this method is the occurrence of competing neutron evaporation reactions and hence the detection of the scattered particle is also needed. Hence, a new chamber has been developed at WNSL at Yale housing a five silicon detector array covering 10% solid angle which was integrated in the YRAST setup. Using the new setup, the transitional nucleus ^{150}Nd has been investigated in (p,p'γ). The band structure was extended and the level scheme was clarified.

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