Abstract Submitted
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Nuclear g-factor measurements for the 2_1^+ states of radioactive Te isotopes by the recoil-in-vacuum technique[1] C.R. BINGHAM, M. DANCHEV, Tennessee, N.J. STONE, Oxford and Tennessee, J.R. STONE, Oxford and Maryland, C.L. TIMLIN, Oxford, A.E. STUCHBERY, ANU, Canberra, C. BAKTASH, J. BEENE, A. GALINDO-URIBARRI, C.J. GROSS, J. PAVAN, D.C. RADFORD, ORNL, N. BENCZER-KOLLER, G. KUMBARTZKI, Rutgers, J. DUPAK, BRNO, C. BARTON, N.V. ZAMFIR, Yale — Coulomb excitation of the first excited state of radioactive ion beams has been carried out at HRIBF by scattering the RIBs from C foils and observing the recoiling C ions and de-excitation gamma rays of the RIB.[2] This method also yields an angular correlation of the emitted gamma ray with respect to the direction of C recoil. In Coulomb excitation the nuclear spin is initially oriented by the reaction, yielding strong angular correlation of the emitted gamma ray with respect to the direction of C recoil. As the RIB recoils into the vacuum downstream from the thin target, the angular correlation is attenuated due to de-orientation of the spin resulting from its precession about the total angular momentum of the ion. The attenuation of the angular correlation depends on g^2 and the mean life of the state. The experimental results for ^{132}Te will be presented and the g-factors of ^{132,134,136}Te will be discussed.

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[2]See e.g., D. C. Radford, et al., Phys. Rev. Lett. 88, 222501 (2002).

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