

Abstract Submitted
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Design of an in-beam gamma coincidence measurement to study K-forbidden transitions in ^{178}Hf induced by bremsstrahlung¹ GEOFFREY TREES, JAMES CARROLL, Youngstown State University — Recent experiments [1] have suggested that several K-forbidden transitions exist that feed the 31-year isomer $^{178m2}\text{Hf}$ from the ground state band, with surprisingly large transition probabilities. Further study is needed, however, to confirm this result and to more accurately measure the probabilities. One approach would be to excite these transitions using real photons (bremsstrahlung) incident on an isomeric target, and to search for resulting emission of gamma emission within the ground-state band that do not occur during natural decay of the isomer. This poster will describe an experiment in development to investigate one of the reported K-forbidden transitions, at 331 keV, by in-beam coincidence gamma spectroscopy using two Ge clover detectors.

[1] A. B. Hayes, et al., Phys. Rev. C 75, 034308 (2007).

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