

Abstract Submitted  
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**Excited States in the Nucleus  $^{73}\text{Br}$** <sup>1</sup> RAFAEL YAH, DePaul University, SUSAN FISCHER, DePaul University and Argonne National Laboratory, KIM LISTER, Argonne National Laboratory — The nucleus  $^{73}\text{Br}$  was produced in the reaction  $^{40}\text{Ca} (^{36}\text{Ar}, 3p)$  using the ATLAS accelerator at Argonne National Laboratory. Gamma rays from the decay of excited states in this nucleus were detected by the Gammasphere array, and the recoiling nuclei were identified according to mass at the focal plane of the Fragment Mass Analyzer. Gamma-gamma coincidence data gated by mass have been analyzed. Prior to this work, three rotational bands were observed in  $^{73}\text{Br}$ , and later extended to high angular momentum. The current study has identified several additional rotational bands which begin at low angular momentum and excitation energy. The new bands will be compared with the known band structures in  $^{75}\text{Br}$  and  $^{71}\text{Br}$ .

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