Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

The β decay of ^{34,35}Mg and the structure of ^{34}Al[1] MUSTAFA RAJABALI, Tennessee Technological University, FOR THE GRIFFIN COLLABORATION ON EXPERIMENT S1367 TEAM — Nuclei in the island of inversion, near the $N = 20$ shell closure, exhibit a fascinating behavior where the nuclear ground states show deformed configurations dominated by particle-hole excitations across the neutron shell gap. The $^{31-35}$Mg nuclei are in or at the border of this island displaying intruder ground-state configurations, while the $^{31-35}$Al isotopes are suggested to have mixed ground- state configurations of normal and intruder type and thus serve as a transition from intruder dominated Mg isotopes to the normal ground-state configuration in Si isotopes. An experiment was performed at the TRIUMF-ISAC-I facility with the goal of populating states in $^{33-35}$Al via the beta decay of $^{33-35}$Mg. Mg ions were produced, transported and implanted onto a moving Mylar tape at the center of the GRIFFIN spectrometer. Results obtained from the analysis of the ^{34,35}Mg decay data from this experiment will be presented. This includes the half-lives of ^{34,35}Mg and ^{34,35}Al which clarify current conflicting information in the literature.

[1]This work is supported by Tennessee Technological University Research Office, the Canadian Founda- tion for Innovation, the National Research Council of Canada and the Natural Sciences and Engineering Research Council of Canada.

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Date submitted: 30 Jun 2016 Electronic form version 1.4