

Abstract Submitted
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Investigation of excited states in ^{47}Ca through a high-statistics beta-decay study JENNA SMITH, TRIUMF, GRIFFIN COLLABORATION — Recent developments in nuclear many-body calculation methods have extended the application of ab initio interactions to the calcium isotopes (e.g. Refs. [1,2]). Detailed nuclear data for these isotopes are necessary to evaluate the many-body calculation methods and to test the predictive power of the interactions. Transfer reactions from ^{48}Ca have identified many excited states of ^{47}Ca , but only four states have been identified in previous beta-decay experiments. High-statistics beta-decay studies using modern detection systems can provide detailed information on level energies, branching ratios, and spin/parity assignments, while comparison to other population methods can yield information about the structure of these states. A recent experiment at TRIUMF-ISAC used the GRIFFIN spectrometer to investigate the levels populated by beta decay in more detail. The decay scheme has been considerably extended and angular correlations between cascading gamma-ray transitions allow spin and parity assignments to be made for some of the observed excited states. An overview of the experimental apparatus as well as a discussion of the results from preliminary analysis will be presented.

[1] G. Hagen et al., PRL 109 032502 (2012)

[2] J. Holt et al., PRC 90 024312 (2014)

Jenna Smith
TRIUMF

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