Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Decay Spectroscopy of Neutron-Rich Cd Around the N = 82 Shell Closure[1] NIKITA BERNIER, TRIUMF / UBC, IRIS DILLMANN, TRIUMF / UVic, REINER KRUECKEN, TRIUMF / UBC, GRIFFIN COLLABORATION — The neutron-rich region around A = 132 is of special interest for nuclear astrophysics and nuclear structure. This region is connected with the second r-process abundance peak at A≈130 and the waiting-point nuclei around N = 82. For nuclear structure studies, the neighbours of the doubly-magic ^{132}Sn (Z = 50, N = 82) are an ideal test ground for shell model predictions. The beta-decay of the N = 82 isotope ^{130}Cd into ^{130}In was first investigated a decade ago, but the information for states of the lighter indium isotopes (^{128,129}In) is still limited. In the present experiment, a detailed gamma-spectroscopy of the beta-decay of $^{128-132}$Cd was achieved with the newly commissioned GRIFFIN (Gamma-Ray Infrastructure For Fundamental Investigations of Nuclei) gamma-ray spectrometer, which is capable of measuring down to rates of 0.1 pps. The low-energy cadmium isotopes were implanted into a movable tape at the central focus of the array from the ISAC-I facility at TRIUMF. The beta-tagging was performed using the auxiliary beta-particle detector SCEPTAR. The required beta-gamma(-gamma) coincidence data in high statistics needed to fill the spectroscopic gaps described in literature were obtained. The ongoing analysis of these data will be presented.

[1]Work supported by the Natural Sciences and Engineering Research Council of Canada and the National Research Council of Canada.

Nikita Bernier
TRIUMF / UBC

Date submitted: 22 Jun 2016 Electronic form version 1.4