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# Decay Spectroscopy of Neutron-Rich Cd Around the N = 82 Shell Closure

*Monday 13 June 2016 17:00 (15 minutes)*

The neutron-rich region around A = 132 is of special interest for nuclear astrophysics and nuclear structure. From an astrophysics perspective, 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. Timing information needed to measure the half-lives of $^{128-130}$Cd was collected to resolve previously published discrepancies in those values. The ongoing analysis of these data will be presented.

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