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Exploring The Level Schemes of Nuclei in the Z=38 to 40 Range

ERIN GOOD, KRISTEN GELL, TOM TARLOW, RICHARD HUGHES, TIM ROSS, CON BEAUSANG, University of Richmond, UNIVERSITY OF RICHMOND TEAM — Nuclei in the vicinity of ^{89}Y are of interest for a variety of reasons including their use as RadChem markers in the 1950s and 60s. To improve our knowledge of the nuclear structures in the vicinity of ^{89}Y , high to medium spin excited states in nearby nuclei were populated following the $^{74}\text{Ge} + ^{18}\text{O}$ reaction. The ^{18}O beam, at beam-energy of 65 MeV, was delivered by the ESTU tandem Van de Graaff accelerator at Yale University's Wright Nuclear Structure Laboratory. Gamma-rays from the product nuclei (mainly $Z = 38$ to 40 , $N = 48$ to 50) were detected using the YRAST Ball's array of Ge clover detectors. Coincident gamma-rays were sorted into a cube which was analyzed using the Radware XmLevit8r software. The existing level schemes for several of these nuclei were re-evaluated and expanded during this analysis. Preliminary results will be discussed. This work was partly supported by the US Department of Energy via grant numbers DE-FG52-09NA29454 and DE-FG02-05-ER41379.

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