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Particle-Gamma Coincidence Studies of Uranium Nuclei R.O. HUGHES, T.J. ROSS, C.W. BEAUSANG, University of Richmond, J.T. BURKE, N.D. SCIELZO, M.S. BASUNIA, C.M. CAMPBELL, R.J. CASPERSON, H.L. CRAWFORD, J. MUNSON, L. PHAIR, J.J. RESSLER, STARS-LIBERACE Collaboration — The STARS/LIBERACE array at the 88-Inch Cyclotron at Lawrence Berkeley National Laboratory is proving to be an extremely versatile device for probing nuclear structure via (charged) particle-γ coincidence spectroscopy. The technique enables the properties of low- and medium-spin states up to and beyond the neutron separation energy to be probed and give rare insights into the high-level density nuclear continuum well above the pair gap. Recently, ^{234}U, ^{235}U, ^{236}U and ^{237}U were studied via (p,d) and (p,t) reactions on ^{236}U and ^{238}U targets. The exit channel and excitation energy of the residual nucleus are selected by measuring the outgoing charged particle using the STARS silicon telescope array, while coincident gamma rays are detected with the LIBERACE clover array. The subsequent particle spectra show the ensemble of states that were directly populated by the reaction while γ-ray coincidences reveal the decay path from a given level. Results from our recent experiment will be presented. This work was supported by DoE Grant Numbers: DE-FG52-06 NA26206 and DE-FG02-05 ER41379.

Richard Hughes
University of Richmond

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