## Abstract Submitted for the DNP15 Meeting of The American Physical Society

Prompt and Delayed Spectroscopy of Ac isotopes around N=126S.S. HOTA, G.J. LANE, M.W. REED, A.J. MITCHELL, A.E. STUCHBERY, T. KIBEDI, A.A. AKBER, T.E. ERIKSEN, M.S. GERATHY, N. PALALANI, T.R. PALAZZO, Australian National University — Nuclei above Z=82 and around N=126 are well described by the spherical shell model, with the attractive protonneutron residual interactions and particle-octupole vibration coupling resulting in energy-favored, isomeric states occurring along the yrast line. Nuclei up to Z=88 are mostly well known [1], but information on Ac (Z=89) isotopes is limited. We report on high-spin, gamma-ray spectroscopy measurements of <sup>214,215,216,217</sup>Ac performed at the Australian National University using the CAESAR array and fusionevaporation reactions between  $^{12}\mathrm{C}$  and  $^{14,15}\mathrm{N}$  beams delivered by the 14UD accelerator incident on <sup>204</sup>Pb and <sup>209</sup>Bi targets. States up to 29/2<sup>+</sup> isomers were known previously in <sup>215,217</sup>Ac [2,3], while only one gamma-ray has been assigned to each of <sup>214,216</sup>Ac. New level schemes have now been constructed for <sup>214,216</sup>Ac and those for <sup>215,217</sup>Ac have been significantly extended. The results will be presented in detail together with semi-empirical shell model calculations that support the proposed level schemes.

- [1] G. D. Dracoulis et. al., Phys. Rev. C 80, 054320 (2009).
- [2] D. J. Decman et. al., Nuclear Physics A 436 (1985) 311-337.
- [3] D. J. Decman et. al., Z. Phys. A 310, 55-59 (1983).

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Date submitted: 08 Jul 2015 Electronic form version 1.4