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**High-spin States in the Neutron Deficient Nucleus**

<sup>107</sup>Sb, D.R. LAFOSSE, C.J. CHIARA, D.B. FOSSAN, G.J. LANE, J.M. SEARS, J.F. SMITH, K. STAROSTA, SUNY at Stony Brook, M. DEVLIN, F. LERMA, D.G. SARANTITES, Washington University, A.J. BOSTON, E.S. PAUL, University of Liverpool — Odd-mass <sub>51</sub>Sb nuclei have been shown to possess many interesting structure features. The phenomenon of smooth band termination was first discovered in <sup>109</sup>Sb, and the strongly coupled  $(\pi g_{9/2})^{-1}$  bands are now being studied in terms of the tilted axis cranking model, for example. Now, due to the sensitivity of Gammasphere coupled to the Microball, detailed study of the neutron deficient isotope <sup>107</sup>Sb is possible. The reaction employed, <sup>58</sup>Ni(<sup>58</sup>Ni,2 $\alpha$ p), has a very small cross section, and thus less than 10<sup>7</sup> 2 $\alpha$ p-gated events were accumulated. However the resulting data was largely free of contaminating nuclei and an extensive level scheme has been constructed. As of this writing, a single decoupled rotational band and a candidate strongly coupled band have been identified. The dynamic moment of inertia of the decoupled band drops precipitously at the highest frequencies, a hallmark of smooth band termination. This and other aspects of the bands will be discussed, as well as a comparison of these bands to others in neighboring nuclei (<sup>108,109</sup>Sb, <sup>106</sup>Sn).

Prefer Oral Session  
 Prefer Poster Session

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