

Abstract Submitted  
for the APR98 Meeting of  
The American Physical Society

Sorting Category: I.11a

**Structure of odd-odd  $^{112}\text{I}$**  K. STAROSTA, C.J. CHIARA, D.B. FOSSAN, D.R. LAFOSSE, G.J. LANE, J.M. SEARS, J.F. SMITH, SUNY at Stony Brook, M. DEVLIN, D.G. SARANTITES, Washington Univ., I.-Y. LEE, A.O. MACCHIAVELLI, LBNL, A.J. BOSTON, E.S. PAUL, Univ. of Liverpool — High spin states in  $^{112}\text{I}$  have been studied using the  $^{58}\text{Ni}(^{58}\text{Ni},3\text{pn})$  reaction at 250 MeV. The experimental set-up consisted of GAMMASPHERE with 83 75-80%-efficient HPGe detectors coupled with the MICROBALL and an array of 15 NE213 scintillators for neutron detection. Coincident-triples cubes gated by 3p, 4p and 3pn were sorted and analysed. DCO matrices are being extracted for spin information. A preliminary level scheme has been built consisting of six high spin  $\Delta I=2$  sequences and a weak  $\Delta I=1$  band. The interpretation of the observed structures is aided by comparisons with systematic properties of the neighboring odd-odd and odd isotopes and odd isotones; new information for  $^{111}\text{Te}$  extracted from the 4pn channel of this study is helpful in this regard. With the Fermi level for both the protons and neutrons being in the vicinity of the  $d_{5/2}$ ,  $g_{7/2}$  and  $h_{11/2}$  orbitals, the  $\pi h_{11/2} \otimes \nu h_{11/2}$  configuration competes for the yrast level sequence in neutron deficient odd-odd Iodines, showing in  $^{116}\text{I}$  and  $^{118}\text{I}$  signature inversion consistent with odd-odd Cs, La, Pr systematics. Possible structure assignments in  $^{112}\text{I}$  will be discussed.

Prefer Oral Session  
 Prefer Poster Session

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Date submitted: April 30, 1998

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