

A8 9 The Spectroscopy of ^{60}Ni . * W.D. WEINTRAUB, H-Q. JIN, W. REVIOL, L.L. RIEDINGER, *Univ. of Tennessee* C. BAKTASH, M.J. BRINKMAN, D.J. DEAN, C-H. YU, *ORNL* M. DEVLIN, D.R. LAFOSSE, D.G. SARANTITES, *Washington Univ.* M. LEDDY, *Univ of Manchester* I.Y. LEE, A.O. MAC-CHIAVELLI, *LBNL* D. RUDOLPH, *Ludwig-Maximilians-Universität München* High-spin states in ^{60}Ni were populated using the $^{28}\text{Si}(^{36}\text{Ar},4\text{p})$ reaction with beam energy of 136 MeV. Gammasphere was used in conjunction with Microball to detect gamma rays in coincidence with various combinations of detected protons and alphas. A total of 2 billion events was recorded, with the 4p channel to ^{60}Ni representing approximately 11% of the data. In our analysis, the previously known level scheme has been extended up to an energy of 12.7 MeV with a possible spin of 16, and so far a total of 38 levels have been established. The previous work had attempted a theoretical analysis of the lower spin structure in terms of ground, gamma, and beta vibrational bands.¹ Our results will be discussed with respect to that work and a comparison with shell model calculations including the $g_{9/2}$ single-particle orbital into the fp-shell model space will be presented.

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¹G. Moyat *etal.*, *Nuclear Physics A318*, 236 (1979).