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Detailed study of ^{21}Mg excited states in one neutron knockout. C. AA. DIGET, P. ADRICH, D. BAZIN, M.D. BOWEN, B.A. BROWN, C.M. CAMPBELL, J.M. COOK, A. GADE, T. GLASMACHER, S. MCDANIEL, A. OBERTELLI, K. SIWEK, J.R. TERRY, D. WEISSHAAR, National Superconducting Cyclotron Laboratory, Michigan State University, Michigan, K. HOSIER, D. MCGLINCHERY, L.A. RILEY, Department of Physics and Astronomy, Ursinus College, Pennsylvania — The identification of excited state properties of ^{21}Mg has so far been directed by comparison to the mirror nucleus ^{21}F. To obtain independent information on excited states in ^{21}Mg this nucleus is investigated in the single neutron knockout reaction: ^{9}Be(^{22}Mg,^{21}Mg)X. Following the knockout, the γ-decays are studied using in-beam γ-ray spectroscopy. From the γ-ray data, the properties of bound states in ^{21}Mg are identified. Similarly, spectroscopic factors for the ^{22}Mg ground state are determined through the individual level feedings.

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