

Abstract Submitted
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Gamma ray spectroscopy of ^{31}Si ¹ PEI-LUAN TAI, LEANNE HAMILTON, PETER BENDER², SAMUEL TABOR, VANDANA TRIPATHI, CALEM HOFFMAN³, Physics Department Florida State University, RODERICK CLARK, PAUL FALLON, AUGUSTO MACCHIAVELLI, S. PASCHALIS, M. PETRI, Lawrence Berkeley National Laboratory, MICHAEL CARPENTER, ROBERT JANSSENS, T. LAURITSEN, E.A. MCCUTCHAN, D. SEWERYNIAK, S. ZHU, C. CHIARA, Argonne National Laboratory, X. CHEN, W. REVIOL, D. SARANTITES, Chemistry Department, Washington University — ^{31}Si was produced through the ^{18}O (^{18}O , αn) reaction at the beam energy of 24 MeV, which preferentially populates the high spin states. The α particles were detected in Microball and the multiple γ -ray coincidences were detected by Gammashpere. There are 11 newly observed states and 22 new discovered γ transitions. A strong competition is seen between negative-parity “intruder” states and positive-parity pure s-d states. Shell model calculations agree relatively well with both groups of states.

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