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The recent study of the structure of ^{31}Si PEI-LUAN TAI, L. HAMILTON, P. BENDER, S. TABOR, V. TRIPATHI, C. HOFFMAN, Department of Physics, Florida State University., R. CLARK, P. FALLON, A. MACCHIAVELLI, S. PASCHALIS, M. PETRI, Lawrence Berkeley National Laboratory, M. CARPENTER, R.V.F. JANSSENS, T. LAURITSEN, E. MCCUTCHAN, D. SEWERYNIAK, S. ZHU, C. CHIARA, Argonne National Laboratory, X. CHEN, W. REVIOL, D. SARANTITES, Washington University — ^{31}Si was produced through the ^{18}O (^{18}O, αn) reaction at the beam energy of 25 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. Kinematic correction code for recoil is under development.

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