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Yrast structures of neutron-rich ^{51}Ca and ^{52}Sc[1] S. ZHU, R.V.F. JANSSENS, M.P. CARPENTER, T. LAURITSEN, D. SEWERYNIAK, Argonne National Laboratory, B. FORNAL, R. BRODA, W. KRÓLAS, T. PAWLAT, J. WRZESINSKI, Institute of Nuclear Physics, PAN, Poland, N. MARGINEAN, L. CORRADI, G.DE ANGELIS, INFN, Laboratori Nazionali di Legnaro, Italy, M. HONMA, University of Aizu, Japan, P.F. MANTICA, Michigan State University, P. MASON, INFN, Sezione di Padova and Universitá di Padova, Italy, T. OTSUKA, University of Tokyo, Japan — An N=32 subshell closure in neutron-rich nuclei around doubly-magic ^{48}Caoccurs due to the weakening of the strong $\pi f_{7/2}$- $\nu f_{5/2}$ monopole interaction as protons are removed from the $f_{7/2}$ shell. With more proton removed, the splitting between the $\nu p_{1/2}$ and $\nu f_{5/2}$ states may be sufficient to produce a subshell closure at N=34. $\gamma\gamma$ coincidence events, from species produced in deep-inelastic collisions of a ^{48}Ca beam on a thick ^{238}U target, were collected with the Gammashere array at Argonne. The same system was investigated by employing the PRISMA spectrometer coupled with the CLARA γ-ray multi-detector array at the INFN, LNL Legnaro. Analysis of the combined data sets allowed us to identify the γ transitions in ^{51}Ca and ^{52}Sc, and to construct extended level schemes. The energy of these states will be compared with the results of shell model calculations.

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