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In-beam spectroscopy of ⁷²Ge

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Abstract content
   (Max 300 words)

High-spin states in the nucleus ⁷²Ge were investigated via the ⁷⁰Zn(alpha;,2n)⁷²Ge reaction at a beam energy of 30 MeV, using the AFRODITE spectrometer. One aim of the study was to search for tetrahedral states. There was no evidence for such states in our coincidence data. The existing decay scheme was substantially revised and extended. Several gamma-ray placements and level spin-parities were changed, and some 30 new transitions were added to the level scheme.
One new negative-parity rotational band was identified. The new band is likely the unfavoured signature partner of the band built on the previously-known I-pi=3- state at 2515 keV. The two negative-parity bands are interpreted as involving an aligned octupole vibration which evolves to a four-quasiparticle structure at higher spins. The upbend in the yrast band is interpreted as the AB neutron alignment.
The band structures are discussed with reference to Cranked Shell Model calculations, the aligned angular momenta, experimental routhians, and moments of inertia.

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NO

Level for award
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NA

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NO

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