ID de Contribution: **2** Type: **Non spécifié**

Unveilling the intruder deformed 0+2 state in 34Si

lundi 8 octobre 2012 17:30 (20 minutes)

The 0+2 state in 34Si has been populated at the Ganil/Lise3 facility through the -decay of a newly discovered 1+ isomer in 34Al of 26(1) ms half-life. The simultaneous detection of e+e-
pairs allowed the determination of the excitation energy E(0+2)=2719(3) keV and the half-life T1/2=19.4(7) ns, from which an electric monopole strength of rho^2(E0)=13.0(0.9)*10-3 was deduced. The 2+1 state is observed to decay both to the 0+1 ground state and to the newly observed 0+2 state (via a 607(2) keV transition) with a ratio of 1380(717). Gathering all information, a weak mixing with the 0+1 and a large deformation parameter of =0.29(4) are found for the 0+2 state, in good agreement with shell model calculations using a new sdpf-u-mix interaction allowing np-nh excitations across the N = 20 shell gap.

Auteur principal: Dr GRÉVY, Stéphane (CENBG)

Orateur: Dr GRÉVY, Stéphane (CENBG)

Classification de Session: Shell evolution of neutron rich nuclei I

Classification de thématique: Shell evolution in the neutron rich nuclei I