Shape transition from superdeformed to spherical states in neutron deficienta 90 nuclei

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Project details

Total cost:	**Topic(s):**
Not available	0302 - Post-doctoral research training grants
EU contribution:	TP02 - Nuclear Physics
Not available	**Funding scheme:**
Coordinated in:	RGI - Research grants (individual fellowships)
Italy	

Objective

The research project to be carried out at LNL, INFN is based on an experiment using the 40Ca(190-200 MeV) + 58Ni -> 98Cd (Compound Nucleus) reaction and the GASP array (first phase) and EUROBALL III (second phase) equipped with selective devices for neutron and light charged particle identification. This project follows naturally the work that led to the doctoral thesis of the applicant.
The results expected are the extension of the shell model structures and identification of the theoretically predicted superdeformation at higher spins as well as the transition of structure from deformed and super deformed shapes to spherical states in neutron deficient nuclei in the mass 90 region.
The project will offer the possibility to study super deformation at N Z in the regime of strong proton-neutron correlations above a simple shell model structure and will add a new dimension to the understanding of nuclear structure and shape transitions.
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Coordinator

ISTITUTO NAZIONALE DI FISICA NUCLEARE Italy
Via Romea 4
35020 LEGNARO
Italy

Administrative contact: Giacomo DE ANGELIS
Tel.: +39-498292404
Fax: +39-49641925

Participants

Not available Sweden

Sweden

Administrative contact: Daniela FOLTESCU
Tel.: +46-31203719

Subjects

Education and Training - Nuclear Fission - Nuclear Fusion - Scientific Research - Social Aspects

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