

PLPAC meeting 2024-1

Contribution ID : 9

Study of Pairing Re-entrance Phenomenon in ^{72}Ge

Monday 22 Apr 2024 at 10:05 (00h15')

PI info :

Manoj Meher

local collaborator info :

NPD,BARC

Collaborators Name :

T. Santhosh

A. Pal

A. Baishya

T. Singh

J.Das

H. Kumawat

P. Taya

R. Palit

P.C Rout

S. Santra

Motivation :

We propose to carry out an experiment to measure the angular momentum gated proton spectra from $^{73}\text{As}^*$ ($^{18}\text{O} + ^{55}\text{Mn}$ system). The main objective is to study the pairing re-entrance phenomenon in ^{72}Ge . In earlier investigations on this topic, J dependent nuclear level density obtained from proton evaporation spectra in $^{105}\text{Ag}^*$ at the incident energy 40–50 MeV shows an unusual bump in level density of ^{104}Pd at low excitation energy (temperature) and high J. The SMMC calculations has also predicted similar features for ^{72}Ge at low temperature (T) and high J.

Beam time requirement in shifts :

21

Beam :

Oxygen-18

Beam Energy :

35-45

Beam Current :

1-2

Beam Port :

Linac H-1, 45 deg

Buncher Required :

No

Target / Sample Details :

55Mn, 12C, Ta2O5

Whether the experiment is part of PhD work ? :

Yes

Name of the PhD student and year of registration :

2022

Whether the experiment is part of Post-Doc work ? :

No

information on the past beamtime at PLF :

Title of the Experiment- Search for Pairing re-entrance phenomena in A~70.

Date:-21st July, 2023- 28th July, 2023 (7 days of beam time)

Publication information related to prior work at the PLF :

The results of the measurements for the Search for Pairing re-entrance phenomena in A~70 have been reported in DAE SNP-2023

Primary authors : Dr. ROUT, Prakash Chandra (Bhabha Atomic Reserch Centre)

Co-authors : Mr. MEHER, Manoj (Bhabha Atomic Reserch Centre)

Presenter : Dr. ROUT, Prakash Chandra (Bhabha Atomic Reserch Centre) ; Mr. MEHER, Manoj (Bhabha Atomic Reserch Centre)

Session classification : --not yet classified--

Track classification : --not yet classified--

Type : --not specified--