

PLPAC meeting 2024-1

Contribution ID : 22

MEASUREMENT OF PROTON CAPTURE CROSS SECTIONS ON $^{116,119}\text{Sn}$

Monday 22 Apr 2024 at 12:35 (00h15')

PI info :

Prof. Anjali Mukherjee

local collaborator info :

Dr. Aradhana Shrivastava, and her team, BARC, Mumbai

Collaborators Name :

Ms. Munmun Twisha, Mr. Ashish Kumar Gupta, SINP

Dr. A. Shrivastava, Dr. K. Mahata, Dr. K. Ramachandran, Dr. V. Parkar, Dr. Vineet Kumar, Dr. S.C. Sharma, Dr. Sanat Pandit, BARC

Dr. Sanjoy Pal, TIFR

Motivation :

The discrepancy with stellar abundance of Sn isotopes still remains. In this respect, measurements of (p,γ) cross sections on proton rich Sn isotopes gives insight into the (γ,p) cross sections and implicitly into the dilemma involving the p-process contribution to the formation of these nuclei. Extending measurements to proton capture cross sections on Sn isotopes would provide a higher reliability in deriving global optical model parameters for the nuclei in this region.

Beam time requirement in shifts :

15

Beam :

^1H

Beam Energy :

10-12 MeV

Beam Current :

100-200 nA

Beam Port :

6M

Buncher Required :

No

Target / Sample Details :

Natural and enriched targets of Sn: 116,119Sn

Whether the experiment is part of PhD work ? :

Yes

Name of the PhD student and year of registration :

Ms. Munmun Twisha, 1st January,2021

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

No

information on the past beamtime at PLF :

- 1) Beamtime for Dr Saikat Bhattacharya, for his Ph.D. work in 2022: manuscript has been written, will be communicated soon
- 2) 15 shifts of beamtime for my student Mr. Ashish Kr. Gupta for his Ph.D. work in 2023: data analysis completed, manuscript will be written soon

Publication information related to prior work at the PLF :

To be communicated soon

Primary authors : Ms. TWISHA, Munmun (SINP, Kolkata) ; Prof. MUKHERJEE, Anjali (SINP, Kolkata)

Co-authors : Dr. SHARMA, S.C. (BARC) ; Mr. GUPTA, Ashish Kumar (SINP, Kolkata) ; Dr. SHRIVASTAVA, Aradhana (BARC) ; Dr. KRIPAMAY, Mahata (BARC) ; Dr. RAMACHANDRAN, K (BARC) ; Dr. KUMAR, Vineet (BARC) ; Dr. PARKAR, Vivek (BARC) ; Dr. PANDIT, Sanat (BARC) ; Dr. PAL, Sanjoy (TIFR)

Presenter : Ms. TWISHA, Munmun (SINP, Kolkata)

Session classification : --not yet classified--

Track classification : --not yet classified--

Type : --not specified--