

# PLPAC meeting 2024-1

Contribution ID : 5

## Corrosion monitoring of borosilicate glasses using TLA method

Tuesday 23 Apr 2024 at 09:45 (00h15')

**PI info :**

Dr. Jayashree Biswal, IRAD, BARC

**local collaborator info :**

Shri S. C. Sharma, NPD, BARC; Dr. A. K. Gupta NPD, BARC

**Collaborators Name :**

Dr. Jayashree Biswal, IRAD, BARC; Shri V. K. Sharma, IRAD, BARC; Dr. H. J. pant, IRAD, BARC

**Motivation :**

Thin layer activation analysis (TLA) technique using a high energy ion beam is a nuclear technique for measurement of surface loss of materials in the micrometer range. It has been widely used to measure wear, corrosion or erosion in automobile industry, power plants, process industry, oil and petroleum refineries and in many high technology areas. In the proposed study the application of TLA method for corrosion monitoring of glass will be explored.

**Beam time requirement in shifts :**

09

**Beam :**

1H

**Beam Energy :**

13 MeV

**Beam Current :**

200 nA

**Beam Port :**

6M

**Buncher Required :**

No

**Target / Sample Details :**

Glass sheets (15 mmx15mmx3 mm)

**Whether the experiment is part of PhD work ? :**

No

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

No

**information on the past beamtime at PLF :**

July 2022, 1H, 6M port

**Publication information related to prior work at the PLF :**

1) Jayashree Biswal, H.J. Pant, V. K. Sharma, S. C. Sharma, A. K. Gupta, Evaluation of inhibition effect of poly vinyl pyrrolidone on corrosion of bronze in simulated acid rain using thin layer activation technique, Nucl Instrum Methods Phys Res B, 2021, 503, 30–36.

2) Jayashree Biswal, H. J. Pant, V. K. Sharma, S. C. Sharma, A. K. Gupta, Evaluation of green inhibitors for corrosion control of bronze by using thin layer activation method, Nuclear Inst. and Methods in Physics Research, B, 2024 (Communicated).

**Primary authors :** Dr. BISWAL, Jayashree (Bhabha Atomic Research Centre)

**Co-authors :**

**Presenter :** Dr. BISWAL, Jayashree (Bhabha Atomic Research Centre)

**Session classification :** --not yet classified--

**Track classification :** --not yet classified--

**Type :** --not specified--