

Reconstruction of an External Beam PIXE Beamline Using 1.7 MV Tandem Accelerator

Thursday, November 14, 2024 11:00 AM (20 minutes)

The external beam PIXE (Proton Induced X-ray Emission) is used to analyze the trace element of cultural heritage. The AGLAE (Accélérateur Grand Louvre d'analyse élémentaire) at the Louvre Museum in Paris, France is a representative example and it is dedicated to the study of cultural heritage. The Korea Atomic Energy Research Institute is working on reconstruction the external beam PIXE beamline based on the 1.7 MV Tandem accelerator for cultural heritage analysis mainly. The external beam PIXE beamline consists of a dipole magnet to adjust the beam direction from the Tandem accelerator, an quadrupole magnet set to adjust the beam size and shape, two micro slits to adjust the beam size, a beam window to exit proton beam to the air, a fast closing valve to protect the vacuum in case of destruction of the beam window, a stage to adjust the analysis position of the sample, and visible beam profile monitoring devices using BPM and CHROMOX plate. In this presentation, I would like to present the reconstruction results of the external beam PIXE beamline for cultural heritage analysis by the Korea Atomic Energy Research Institute.

Paper submission Plan

Best Presentation

Contribution track

ICABU WG3. Beamline and Instrumentation

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Session Classification: ICABU WG3

Track Classification: ICABU: ICABU WG3. Beamline and Instrumentation