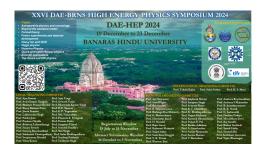
## XXVI DAE-BRNS High Energy Physics Symposium 2024



Contribution ID: 100 Type: Postar

## GEM Detector Fabrication and Characterization Facility at Panjab University

The Gas Electron Multiplier(GEM) detector is one of the most important Micro-Pattern Gaseous Detector (MPGD) first introduced in 1997 by F. Sauli at CERN. These detectors utilize the principle of gas ionization, where an incoming particle interacts with the gas,ionizing it and creating electron-ion pairs. The core of the GEM detector is the GEM foil, a thin insulating layer (usually made of kapton) sandwiched between two conductive layers,perforated with microscopic holes. GEM detectors are advanced gas-based detectors widely used in particle physics experiments for particle tracking, imaging, and particle identification. The fabrication and characterization facility of these GEM detectors is available in our Panjab University, Chandigarh. This paper present the overview of facilities along with selected Quality Control Tests (QCs) of these GEM detectors like QC1(Visual inspection of GEM foils), QC2(Leakage Current Test), QC3(Gas Leak Test), QC4(I-V Characteristic and Intrinsic Noise Rate Measurement).

## Field of contribution

Experiment

**Author:** SUMIT, Sumit (Panjab University (IN))

Co-authors: Dr BANSAL, Sunil (Panjab University Chandigarh); Prof. BHATNAGAR, Vipin (Panjab University

Chandigarh)

Presenter: SUMIT, Sumit (Panjab University (IN))

Track Classification: Future experiments and detector development