

New Scientific Opportunities with the TRIUMF ARIEL e-linac



Contribution ID: 11

Type: not specified

Status of IPC experiment at the Montreal Tandem

Thursday, 26 May 2022 10:00 (30 minutes)

At the Montreal Tandem accelerator, an experiment is being setup to measure internal pair creation in 8Be , using a Daphne experiment MWPC and the scintillator bars surrounding it, covering nearly $4\text{-}\pi$. The preamps and data acquisition hardware have been designed and tested. The target, mounted on an Al foil and water-cooled is in a section of the beamline made of C fiber. The experiment will focus on the measurement of the X17 in IPC of the 18.15 MeV state of 8-Be . Assuming the ATOMKI evaluation of the electron-pair production rate from X17, Geant4 simulation predicts observation of a clear signal after about 2 weeks of data taking with 2 μA proton beam. The IPC measurement could eventually be extended to other nuclei: 10B , 12C and 4He .

Attendance

Contact Email

Scheduling Constraints

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