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## The Proton Irradiation Facility at the Paul Scherrer Institute

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### Abstract

Under a European Space Agency contract the Proton Irradiation Facility has been designed and constructed in the new Paul Scherrer Institute Nucleon Area primarily for terrestrial proton testing of components and materials for spacecraft. Emphasis has been given to generating realistic proton spectra encountered by space-flights at any potential orbit. The Proton Irradiation Facility provides proton beam with energies from 30 to 300 MeV and dose rates up to ca.  $11 \text{ rad s}^{-1}$  per  $10 \mu\text{A}$  (maximum  $20 \mu\text{A}$ ) proton current from a beam splitter. The maximum irradiation field is equal to  $10 \times 10 \text{ cm}^2$ . The facility, designed in a user friendly manner, can be readily adapted to the individual requirements of experimenters. Its principal features are: a transparent operating procedure, a fast and uncomplicated set-up, and a broad range of energies and intensities of the proton beam. The facility is available for general use and apart from components irradiations for space and material research it serves in testing particle detectors and radiation monitors as well as for proton experiments in different disciplines of natural science.