

## **Ionizing and Non-Ionizing Energy Loss irradiation studies with 70-230 MeV protons at the Trento Proton Therapy Center**

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Proton induced Ionizing and Non-Ionizing energy loss campaigns are required studies for silicon sensors and electronic devices qualification when designed for medical, space and high energy physics applications.

The Experimental Area of the Trento Proton Therapy Center offers the possibility to perform these studies using a 70-230 MeV proton beam designed for medical treatment of oncological patients. This area, used only for non medical applications, is equipped with two beamlines reserved for biological experiments, silicon sensor tests and electronic device qualifications. One of these lines is also equipped with a unique passive beam modulator system, called double ring, where large area proton irradiation on silicon sensors and electronic devices can be performed.

In this talk a description of the beam parameters and irradiation regime possibilities will be given, and also the description of a new set-up used in September 2020 for single event upset rate measurement on a electronic device.

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