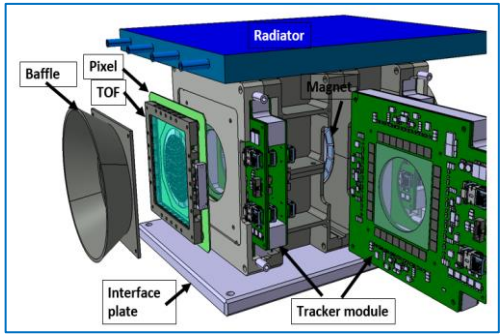
Horizon 2020
European Union Funding
for Research & Innovation

The Silicon Microstrip Tracker for the Mini.PAN experiment

Maria Movileanu-Ionica, On behalf of PAN Collaboration (http://www.pan-space.eu)
INFN Sezione di Perugia, Via A.Pascoli, 06100 Perugia, Italy

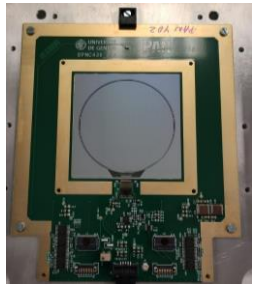
A Silicon Microstrip Tracker (SMT) was built for the Penetrating-particle Analyzer demonstrator, under the framework of EU H2020 FET-OPEN grant. The SMT characteristics and construction technology are described, the quality and performances of the detector will be reported.

Mini.PAN main components:
2 permanent magnets, 3 silicon tracker modules, 2 pixel detectors and 2 TOF modules.
Total dimensions: 20cm x 30cm x 20cm; Weight: max. 10kg; Total Power consumption: < 30W



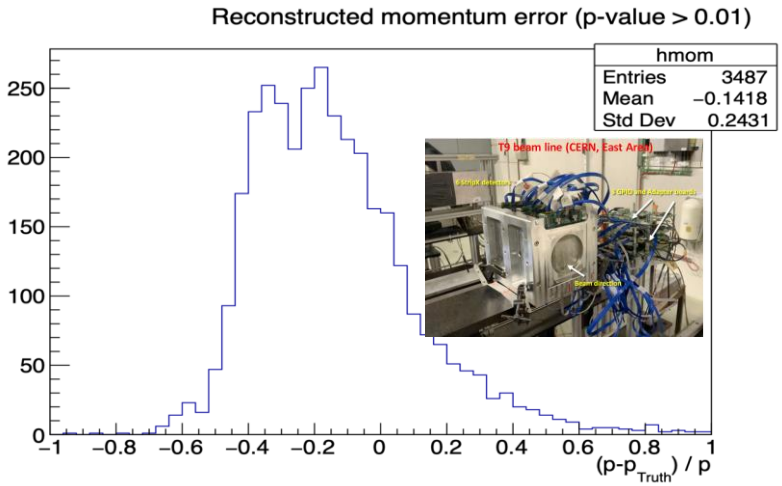
SILICON MICROSTRIP MODULE

- Two Strip-X sensors with 2048 channels readout by 32 VA1140 chips on all four sides. Fine pitch of 25μm
- One Strip-Y sensor with 128 channels readout by one VATAGP7.2 chip. Readout pitch 400μm



8 Strip- X detectors and 3 Strip-Y detectors built and tested

SMT Beam Tests



SMT single module Space Qualification - Mechanical Tests