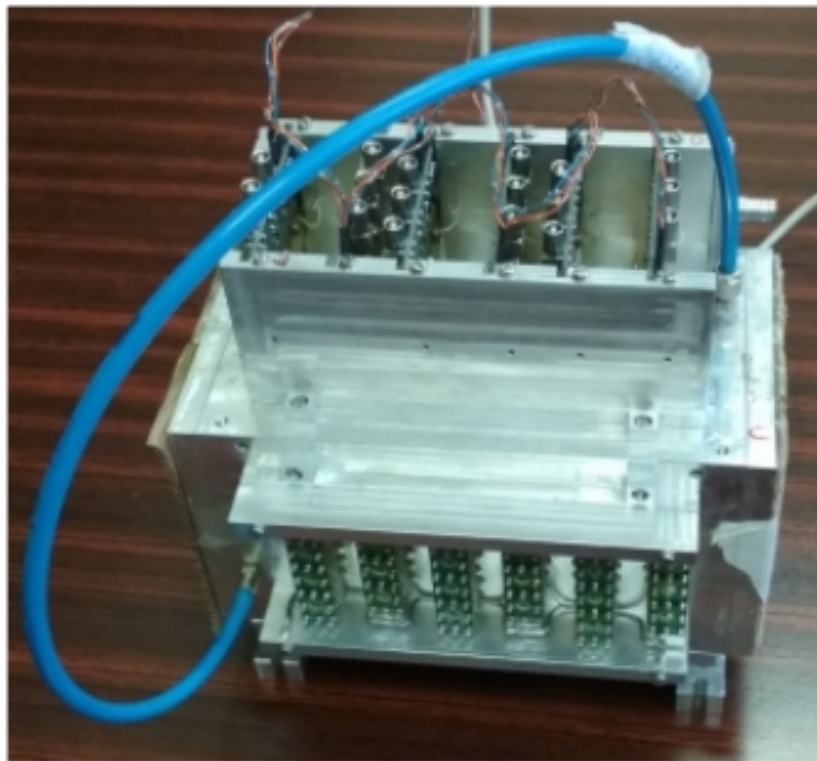


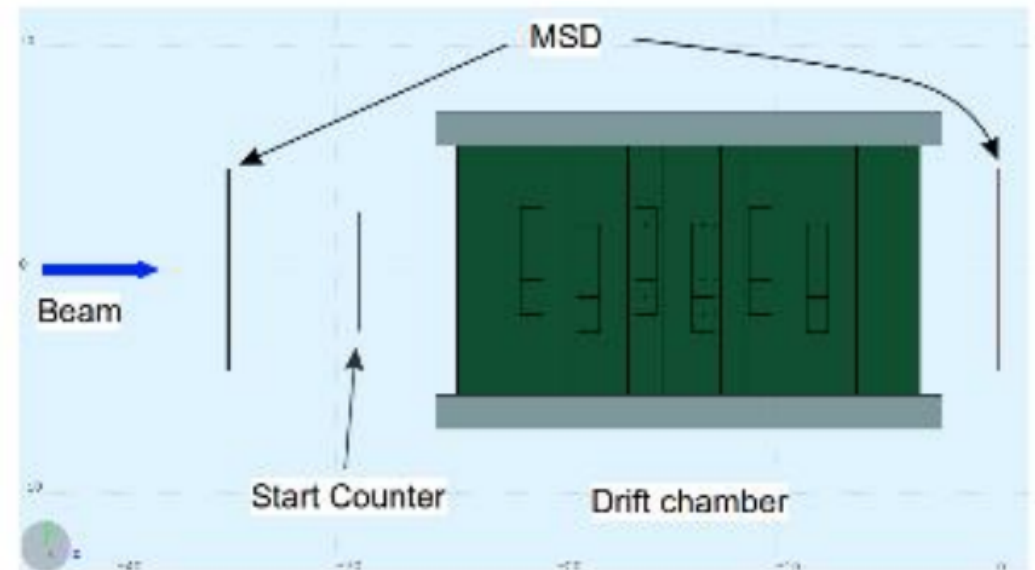
BEAM MONITOR STATUS

Milano – Trento



Beam Monitor: roadmap to test beam

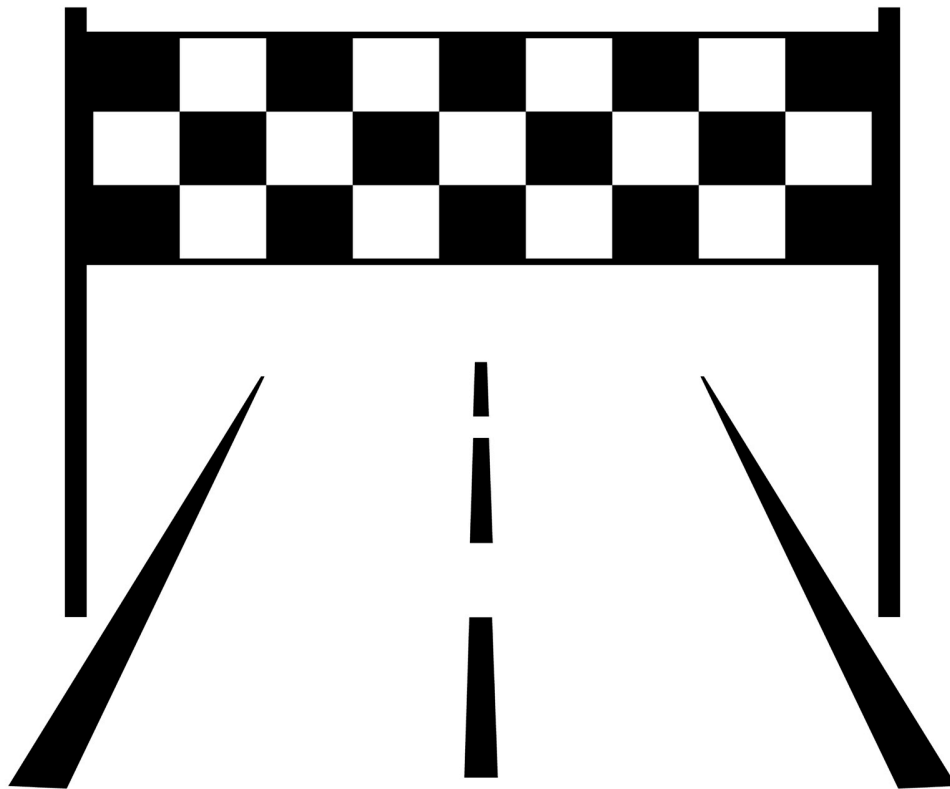
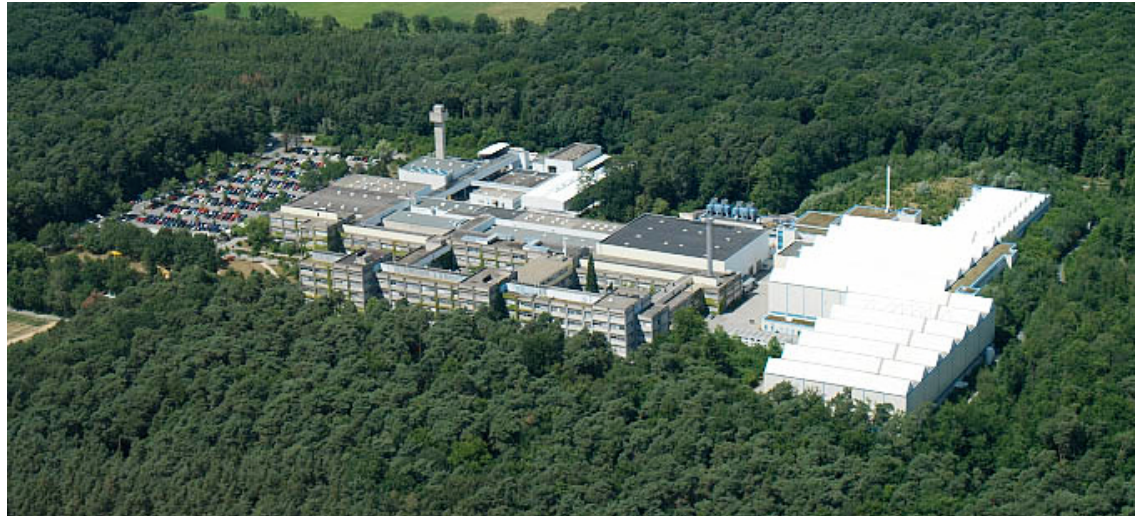
- **June-July 2018:** “dry run” @TIFPA to test BM daq (no beam)
- **PAC Approval:** 15 hours of beam time = 5 working days
- **September 2018:** test beam @TIFPA
- **Goal:**
 - Single-cell efficiency measurements
 - Single-cell space-time relations calibration
 - Spatial Resolution
 - Aging effects?
- **Setup Configuration:**
BM + SC + MSD



Beam Monitor: roadmap to test beam



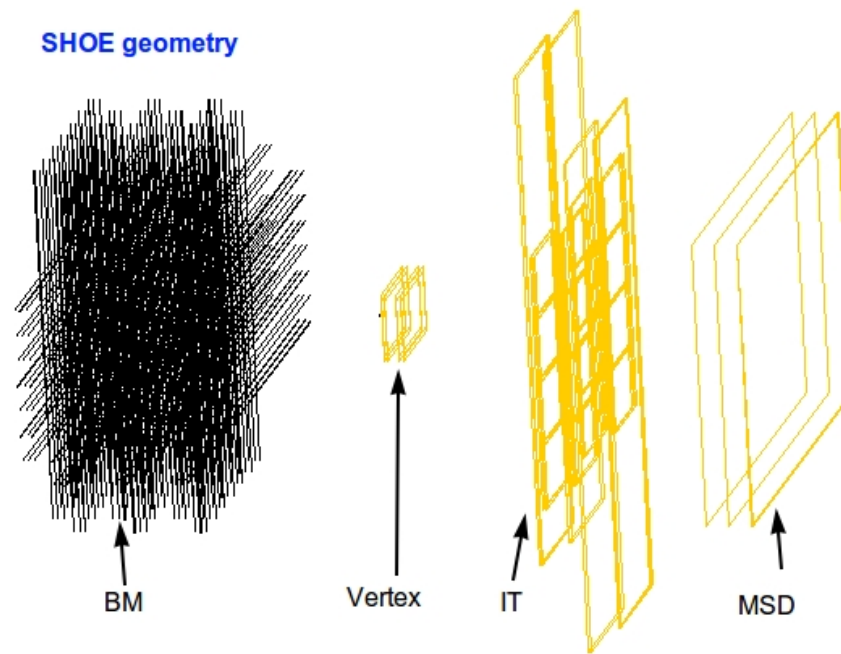
- **Gas system:** a gas distribution system with a bottle of Ar/CO₂ at 80/20% has been ordered (delivery in 1-2 weeks)
- **BM test with the gas self-contained:** the BM will be tested with the gas fully contained in the detector (i.e. no flux) in order to estimate the feasibility of the experiment before its realization at TIFPA
- **VME Electronics now available:** 1 TDC, 1 Scaler, 2 Discriminators
- **Acquisition software:** we need to develop/integrate an acquisition software that includes the BM, the SC and the MSD detector.



Goal:
BM ready for data
taking at GSI
(November 2018)

Beam Monitor: roadmap to test beam

SHOE/TABMbase update: last update of the BM reconstruction software package was in April 2017 (SHOE did not exist yet), now we need to update the software and create a dedicated BM calibration tools (SHOE/BM_calibration branch).



Contribution to the FOOT paper

The FOOT experiment

FOOT Collaboration

1. Introduction

2. Apparatus

2.1. Requirements

2.2. Electronic Setup

2.2.1. Upstream and Target region

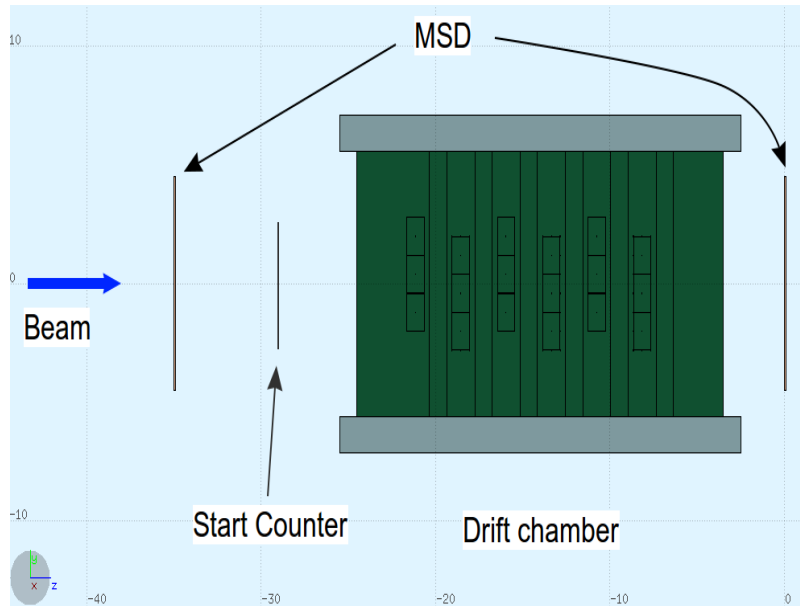
Start Counter.

Beam monitor.

The Beam Monitor (BM) is a drift chamber consisting of twelve layers of wires, with three drift cells per layer. Planes are oriented perpendicular to the BM axis (i.e. beam incidence direction). Two series of orthogonal planes are alternated in order to reconstruct the direction of incoming particles. The cell shape is rectangular (16 mm \times 10 mm) with the long side orthogonal to the beam. In each view two consecutive layers are staggered by half a cell in order to solve left-right ambiguities

done

Experimental setup



Start Counter

250 μm plastic scintillator, circular shape of 4.6 cm in diameter

It measures the incoming beam rate and it works as trigger for data acquisition

Two planes of microstrip silicon detector (MSD)

-Perugia-

One at the front and one at the end of the beam trajectory

They reconstruct the primary proton track with high spatial resolution and that track will be a benchmark of the BM space-time relations