

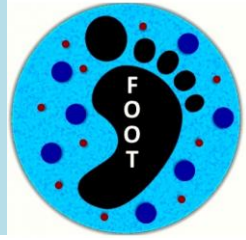
# Status of dE/TOF detector



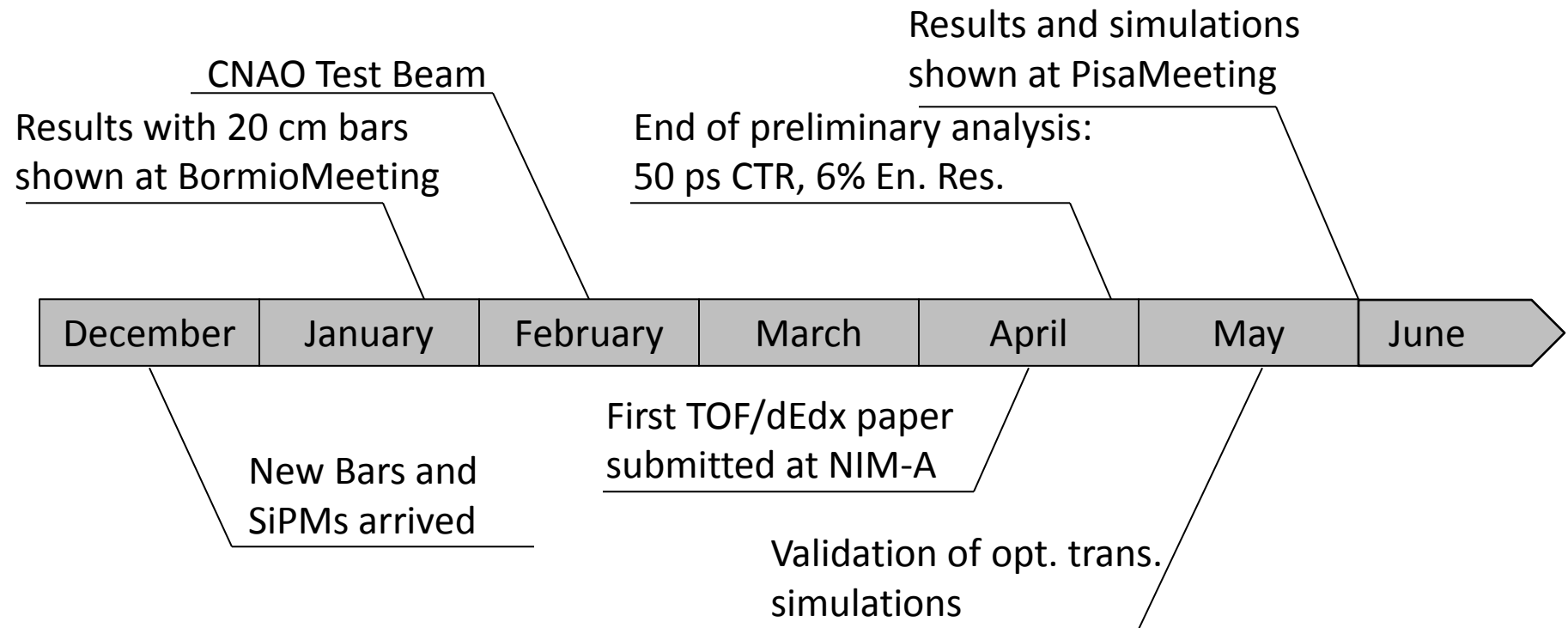
Matteo Morrocchi

FOOT General Meeting  
4-5/6/2018

# Summary



Since last General Meeting:



# Summary



- A prototype with bars having final dimensions was tested
- Time resolution compliant with the experiment was obtained
- The optimal SiPM type to use in the detector was found
- The dependence of the fragmentation probability on the bar thickness was studied

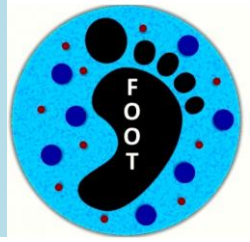
We still need to fully understand the results of energy resolution

→ a second test focused on this task will be performed soon  
(16 June @ CNAO)

We expect to apply only minor changes to the set-up that we tested:

- A better wrapping is available
- The thickness of the bar can be slightly increased
- The length will be 44 cm instead of 40 cm

# Outlook



The detector details are now close to be frozen (with the exception of minor changes that could be proposed in the next few month), so:

- The design of the frame that hosts the bars is started
- The programming of the data elaboration to be used in the final set-up has started
- The realization of the SiPM boards and the procurement of some more samples of bars and SiPMs will start soon.

# Work Plan



For the next General Meeting:

- Better understand the energy resolution that can be achieved
  - Second test beam with the current version of the bar
- Build a portion of detector (maybe a fraction of a layer) in the final mechanical frame.
  - Procurement of SiPMs, plastic scintillators
  - Realization of Frame (2 months for design and 3 for realization) and SiPM boards
- Define a protocol for the calibration procedure of the detector

# Notes...



- Is 200-300um gap between scintillator bars ok?