



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science

## Report on Working Group # 2

# The MU2E detector: calorimeter

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S.Miscetti

LNF INFN Frascati

MUSE Scientific Board meeting

29-April-2019

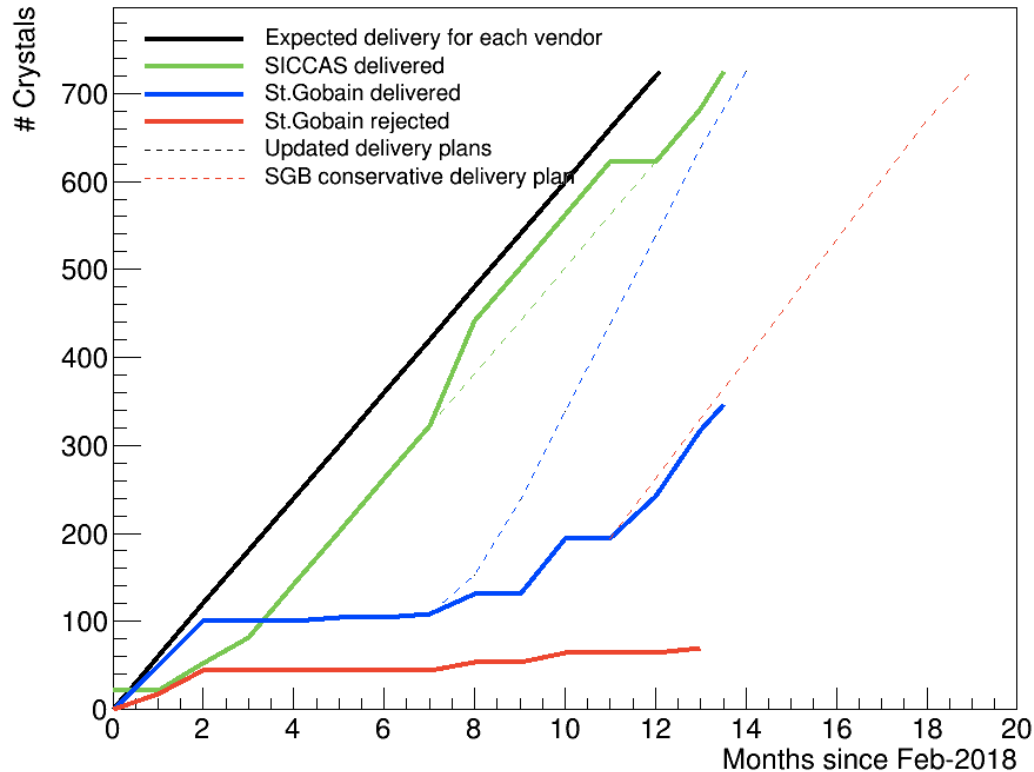
Mu2e

# Overall EMC status

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- Production for crystals and SiPMs
- **Test of SEU for FEE done**
- Mockup of Cable in progress
- **CRR mechanics**
- Deliverable status

# CSI and SiPM production status

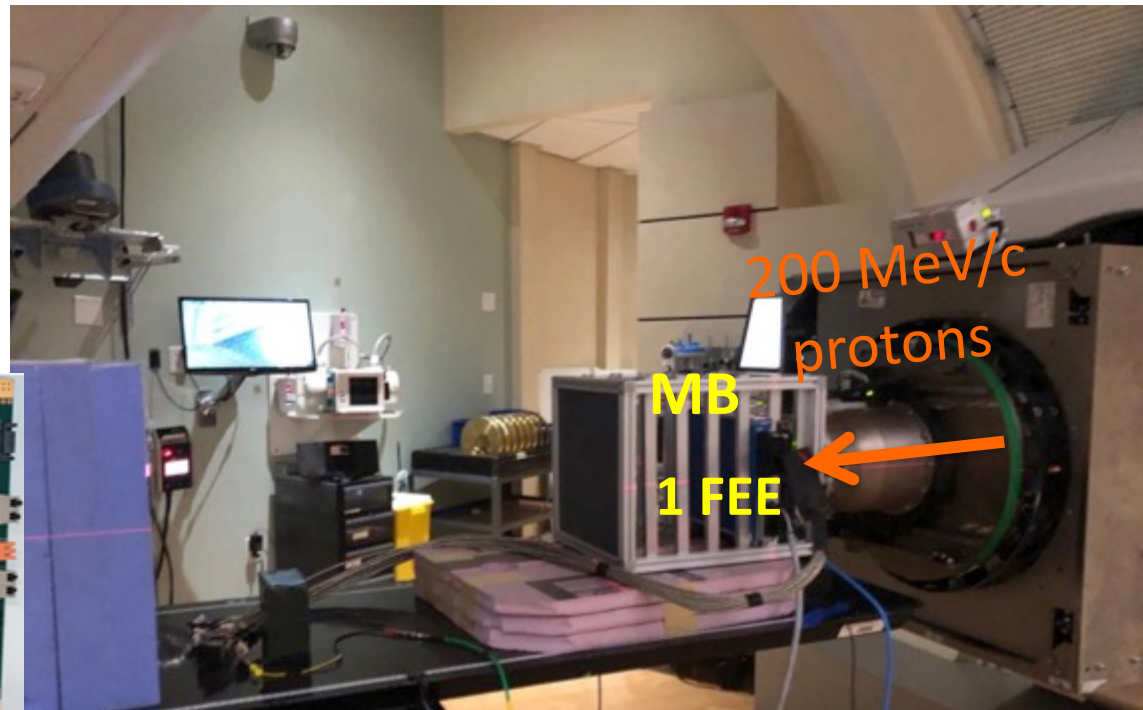
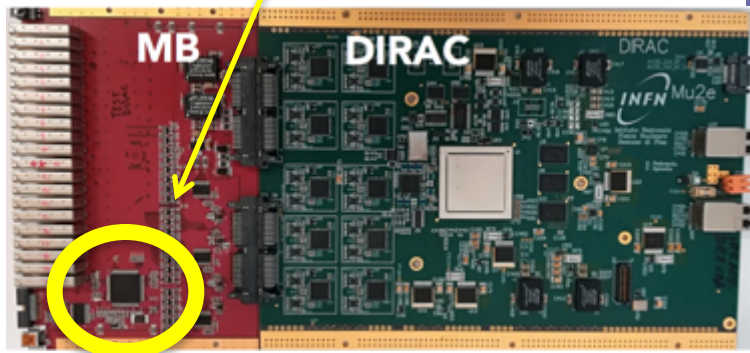


- SICCAS completed. **Few units to be replaced next month**
- St.Gobain keep following recovering plan. Now rejection ok
- SiPM production completed for calorimeter assembly (3300 units)

# FEE/DIRAC latest steps before production

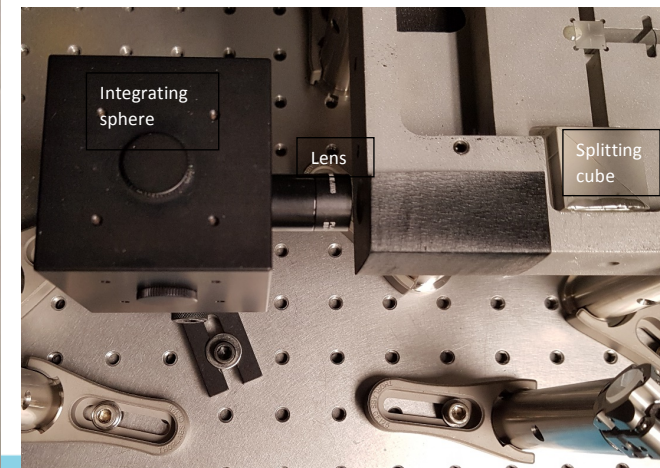
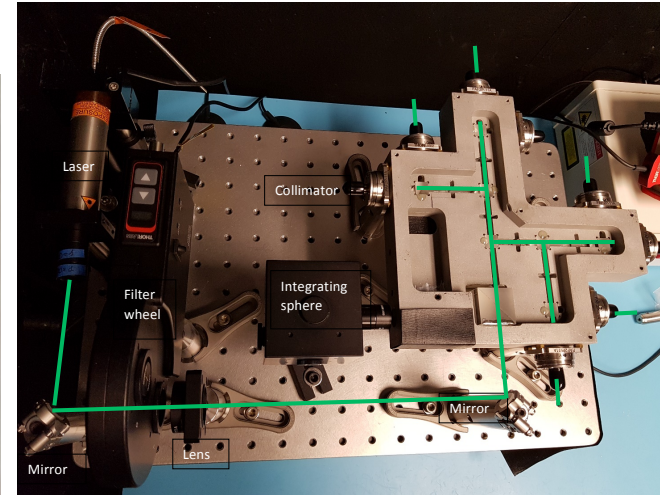
- ❑ FEE test of SEU successfully done at Warrenville Proton Medical Center up to  $5 \times 10^{10}$  p/cm<sup>2</sup>
- ❑ **MTTF test of FEE in progress** → MTTF > 100 k-hours already reached
- ❑ **Production of FEE rad-hard boards in progress** → First prototypes expected end of May
- ❑ Vertical slice test of FEE V2+DIRAC V1 (not rad-hard) in progress in Italy
- ❑ Design of DIRAC – V2 progressing well. **Input stage successfully tested.**
- ❑ SEU test of digital electronics planned for May

SEU test dedicated to  
The ARM processor  
LPC1768 NXP



# Mechanics and Laser system

- ❑ Full size mockup with FEE cable done. Laser bundle selected. Routing in progress
- ❑ Routing of piping and services being completed in CAD model
- ❑ Laser distribution system tested in SIDET
- ❑ CRR of mechanics fixed for 20/21 of May



# Status of deliverables & Milestones

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- D2.1 (TDR) Month 12
- D3.3 (Design Laser system) Month 18
- D4.2 (Development of Simulation Code) Month 32
- D2.2 (Production DB for Crystals and sensors) Month 36
- MS2 (Assembly of the first calorimeter disk) Month 42

Calorimeter disk will not be ready for June

- CRR of mechanics is set for May 20
- CRR for electronics being planned for June
- Mechanics expected/needed for October
- FEE electronics expected for October

Delay it for the end of the year ..