

# PBR @ TIFPA

Ester Ricci

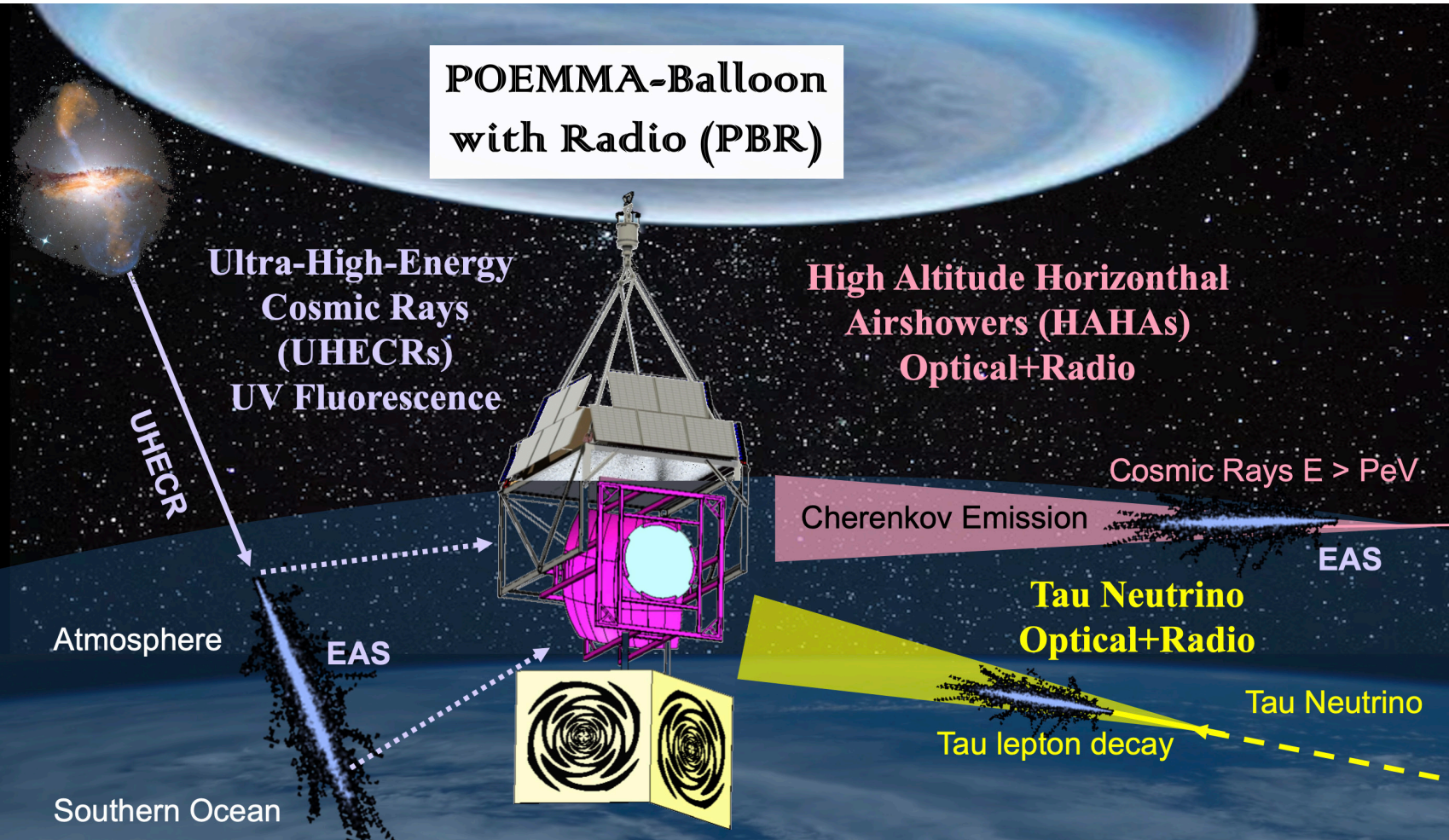
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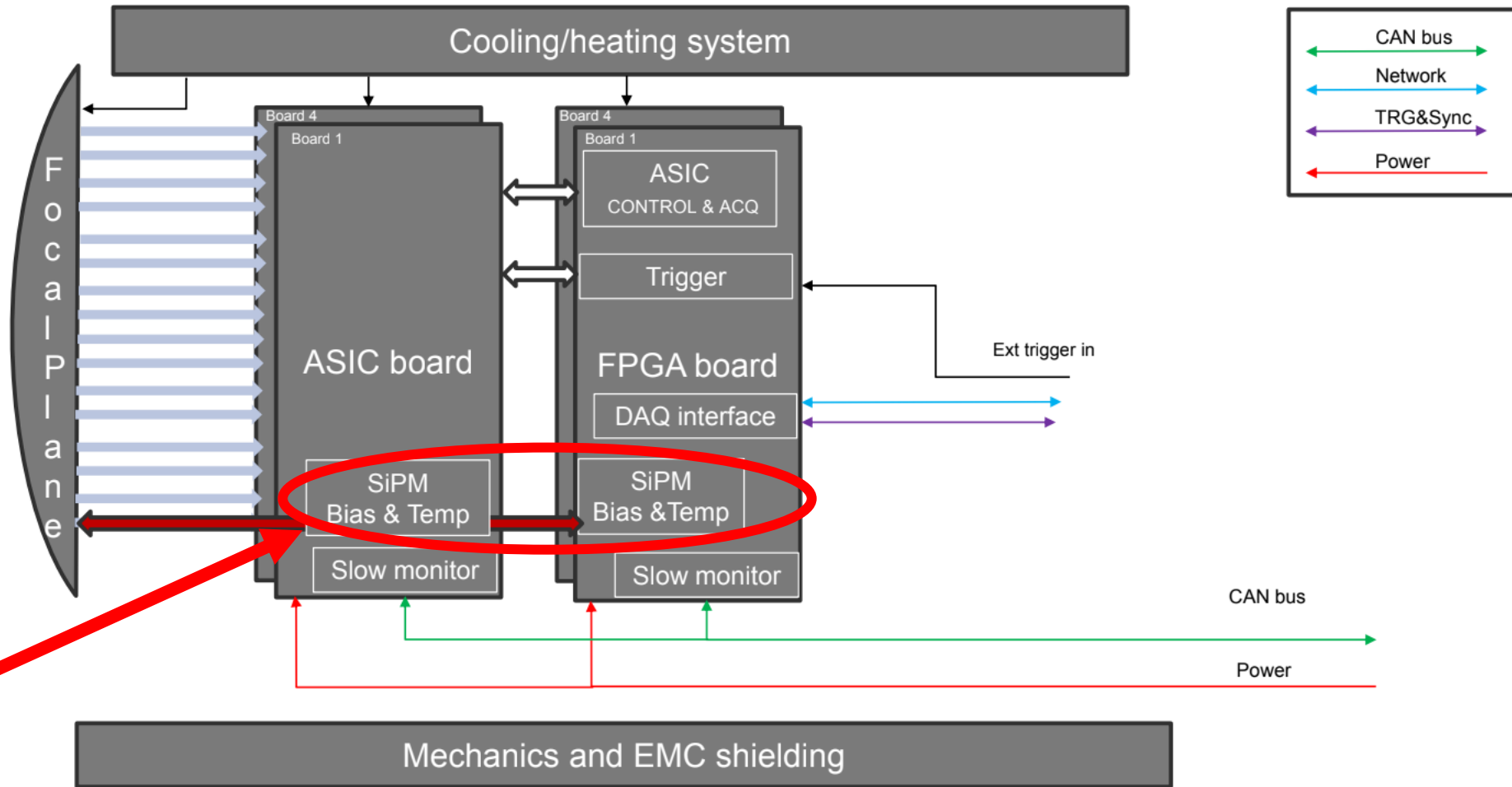
# PBR detector



- Third pathfinder for POEMMA experiment
- Dedicated to the observation of UHECRs observing their interaction with atmosphere
- Three main instruments:
  - Fluorescence camera
  - Cherenkov camera
  - Radio antenna
- It will fly on a SPB from New Zealand on 2027
- Officially adopted by NASA at the end of June
- The path of ASI approval is a bit more complex but we hope for the better

# PBR cherenkov camera

## CHERENKOV CAMERA: BLOCK DIAGRAM



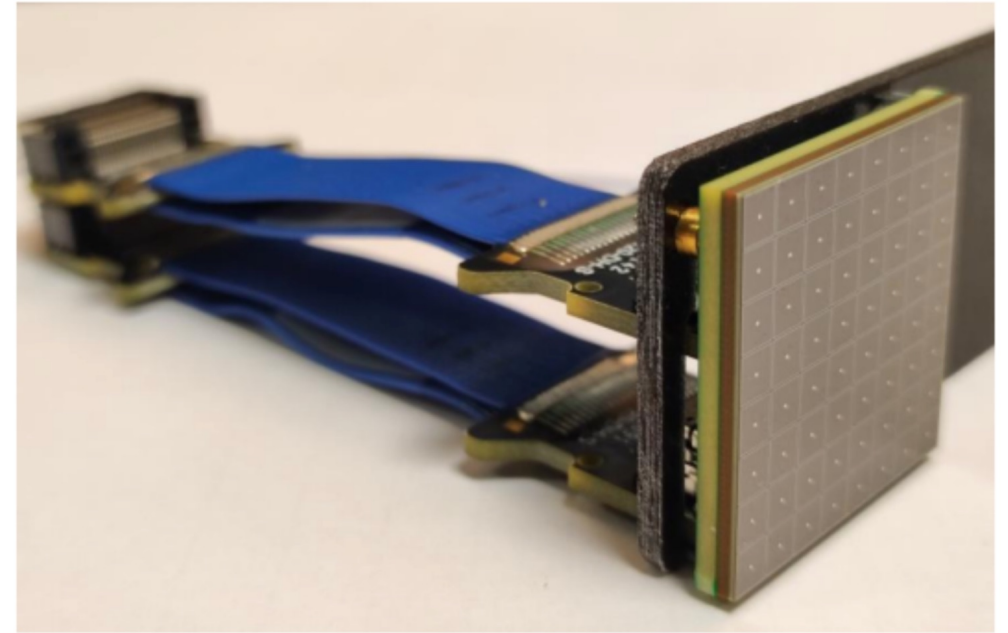
We are here!

SiPM for focal plane have been selected: Ham. S13361-3050 or S14161-3050



# Planned activities

- Tests of SiPMs module inside the climat chamber
- Study of the SiPM behaviour as a function of the temperature
- Development of a correction algorithm
- Test of the algorithm and implementation on FPGA



- 8x8 SiPM matrix
- 2 prototypes available in Napoli
- 2 temperature sensors for each matrix
- Final readout system not defined yet, two solutions under evaluation
  - Custom made MIZAR ASIC (critical path)
  - RADIOROC2 (currently under test)

# Anagrafica e richieste economiche

FTE

Nome e cognome	FTE
Ester Ricci	0.2 (resp. locale)
Roberto Iuppa	0.2
Riccardo Nicolaidis	0.2
FBK (TBD)	1
<b>TOTALE</b>	<b>1.6</b>

Richieste economiche

Spesa	Richieste
Missioni (turni di misura, meeting di WP e collaborazione)	5k
Realizzazione prototipo scheda di bias	10k
Sistema di readout SiPM	5k
<b>TOTALE</b>	<b>20k</b>