



## JEM-EUSO experiment

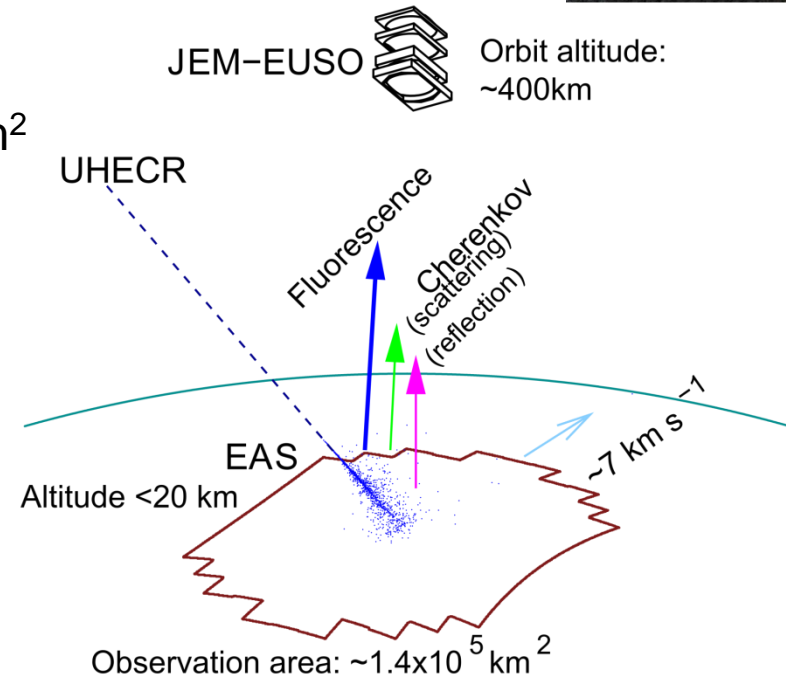
- Designed for the International Space Station
- First instrument able to observe an area  $\sim 10^5 \text{ km}^2$
- Full-sky observation

## Scientific objectives

- Detection of UV photons of fluorescence and Cherenkov light from extensive air showers
- A high statistics measurement of the trans-GZK spectrum
- Identification of sources and source regions

## JEM-EUSO prototypes

- **EUSO-Balloon**  
30 km altitude, first flight from Timmins, Canada in August 2014
- **EUSO-TA**  
Telescope Array site, Utah (USA)  
First campaigns in March and May 2015

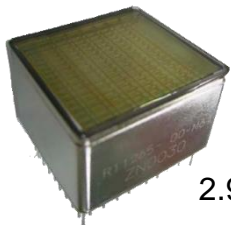


## EUSO-TA objective

Validation of the JEM-EUSO prototype

- Calibration with Central Laser Facility and Electron Light Source
- Cross-calibration with TA fluorescence detectors through comparison of noise and signal
- Observation of extensive air showers triggered by TA

## Sensors for the Photon Detection Module

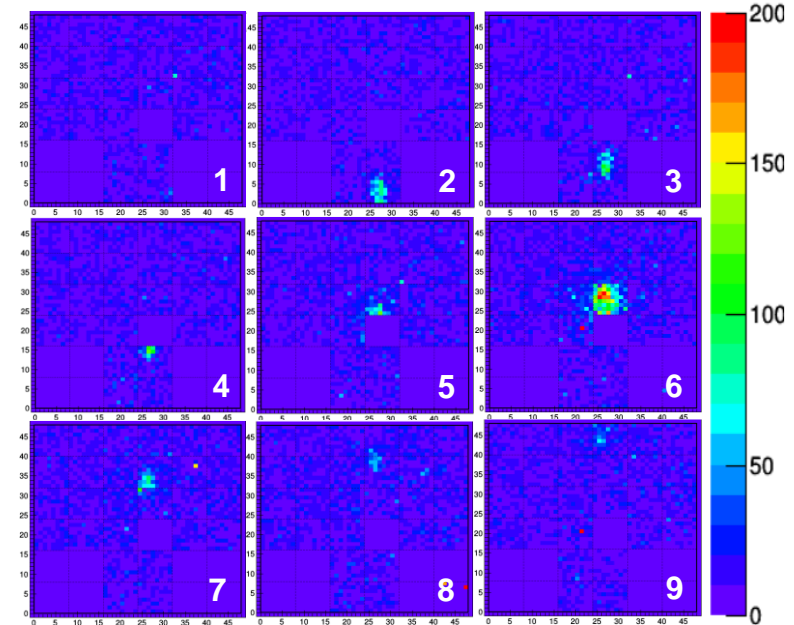


64ch MAPMT  
2.9x2.9 mm<sup>2</sup>/ch



64ch TSV SiPM  
3x3 mm<sup>2</sup>/ch

Current sensor MAPMT  
or new generation SiPM?



Laser shot from the Central Laser Facility of TA.  
One image/GTU (2.5 μs)

