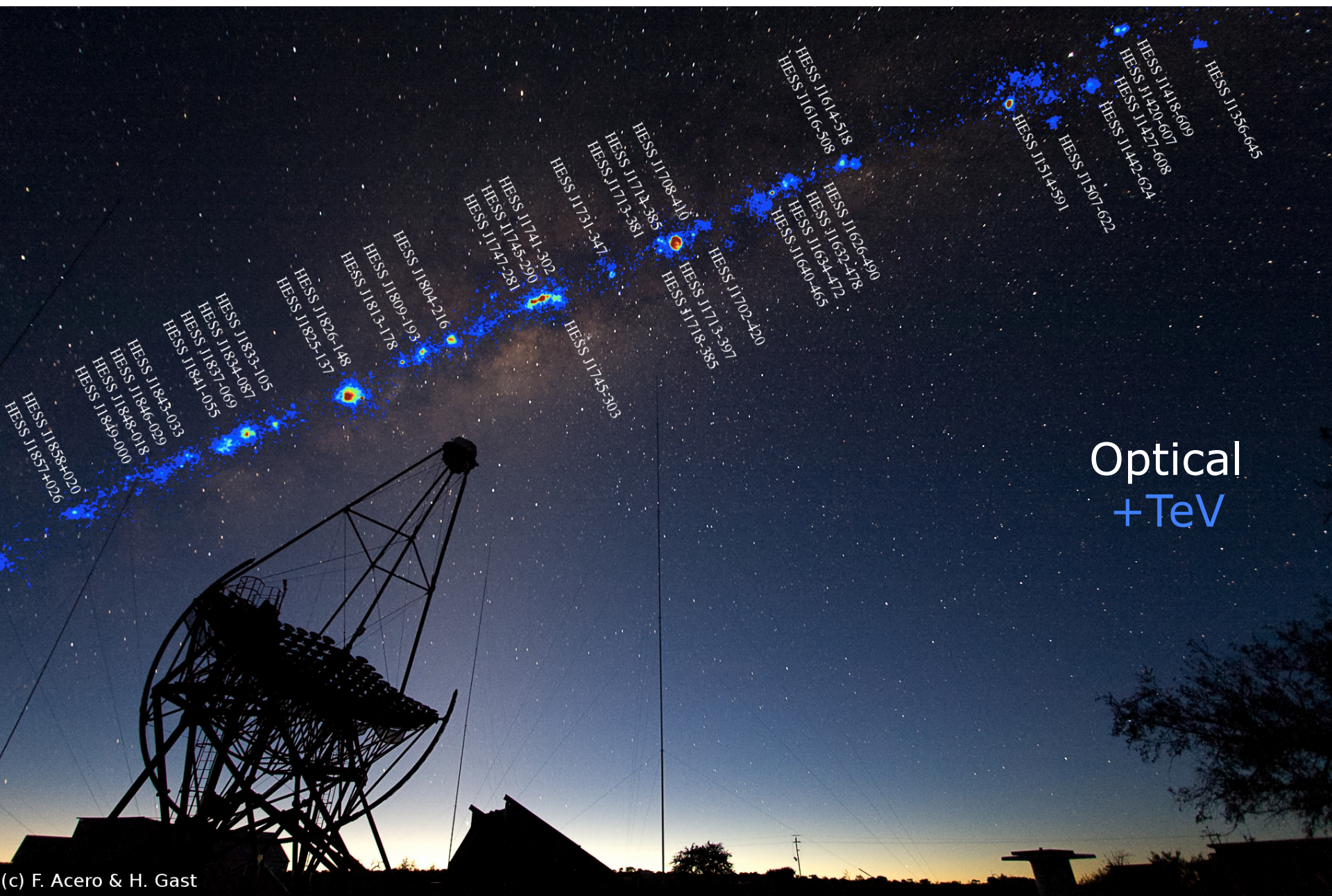


---

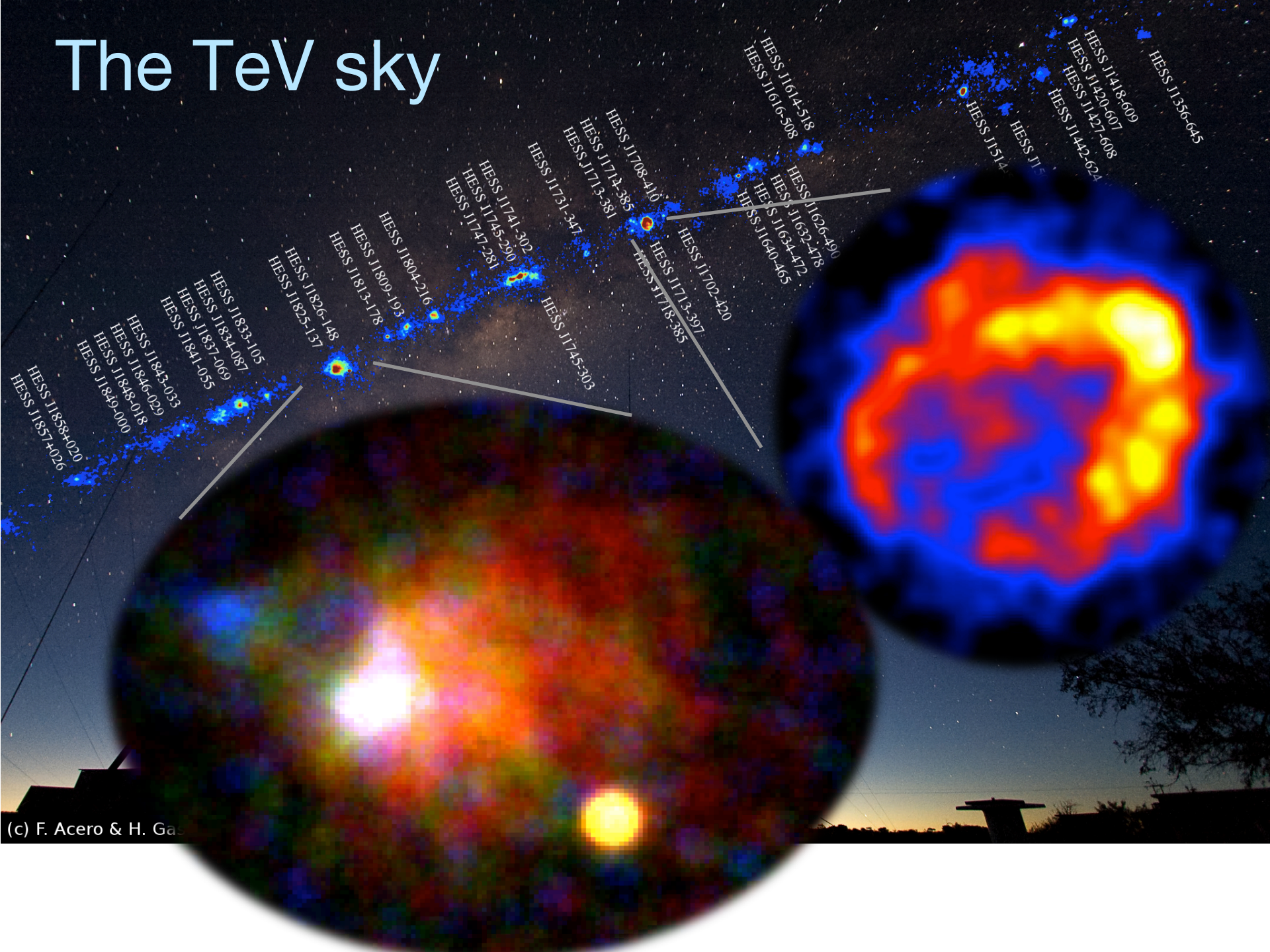
# **THE ASTRI PROTOTYPE AND THE PATH TO CTA**

**Patrizia Caraveo**

# The TeV Sky



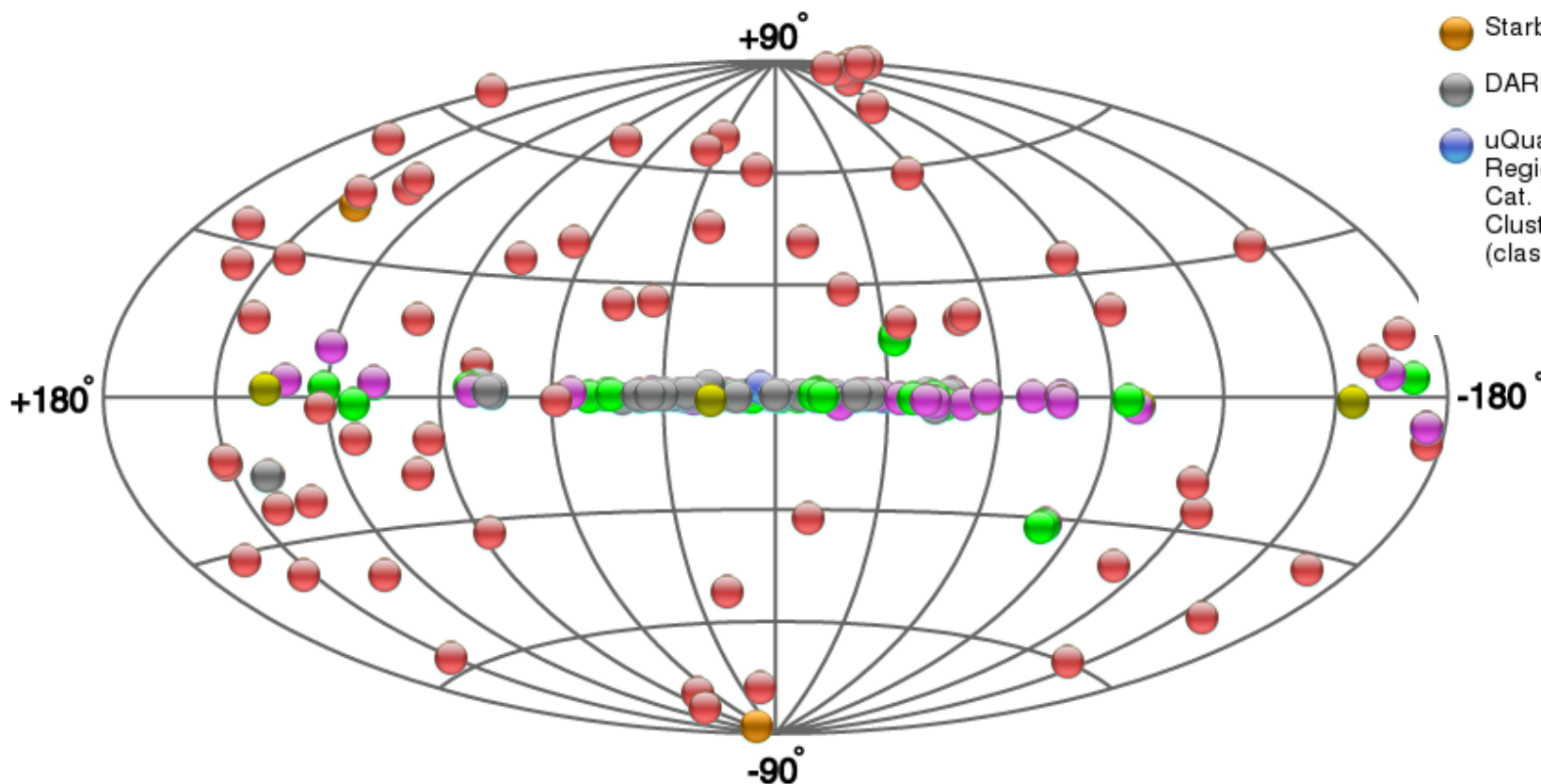
# The TeV sky



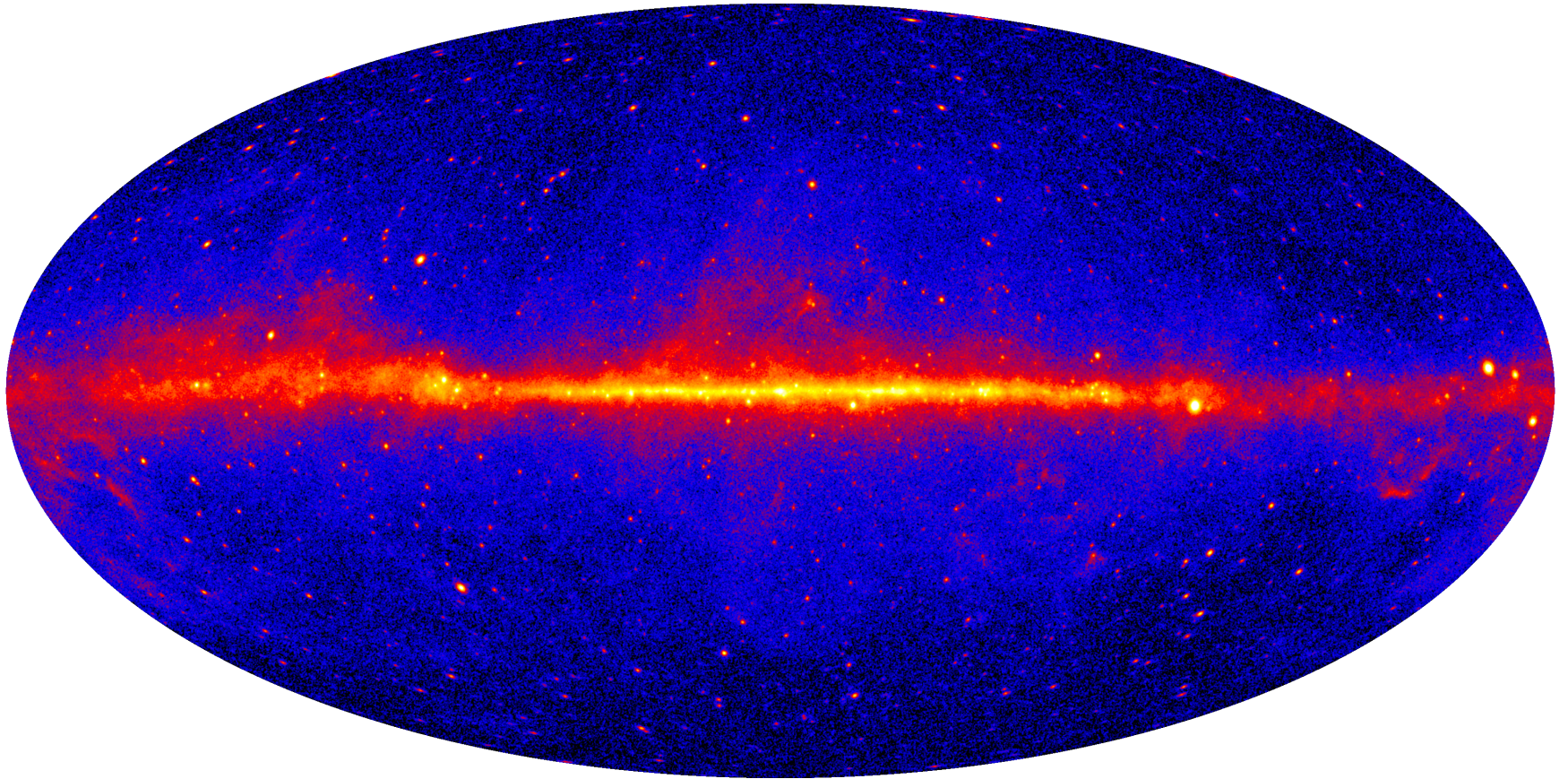
# The TeV sky <200 sources

## Source Types

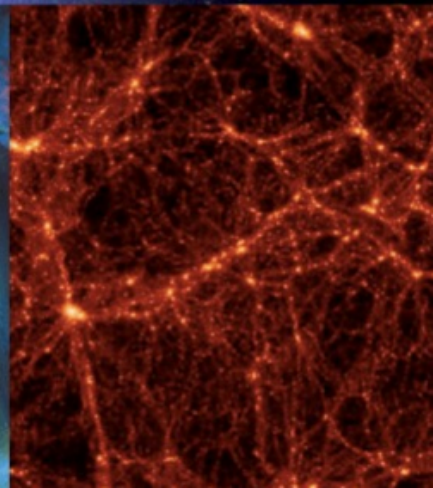
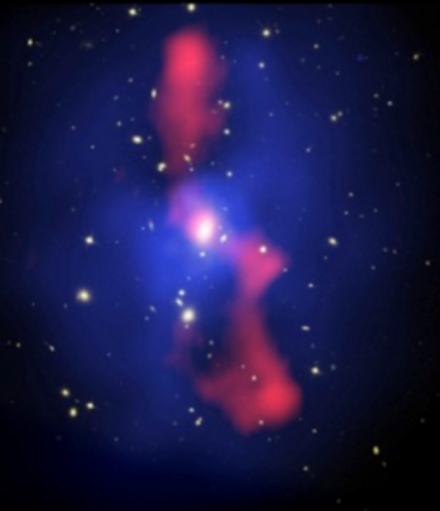
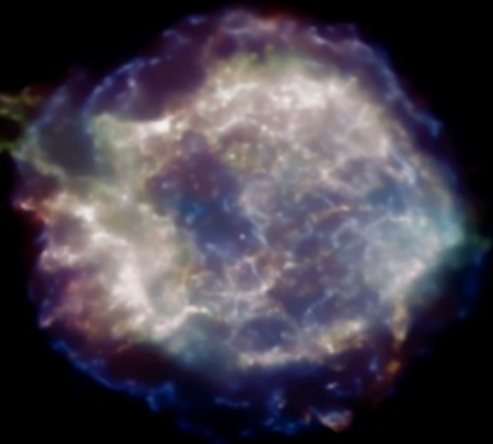
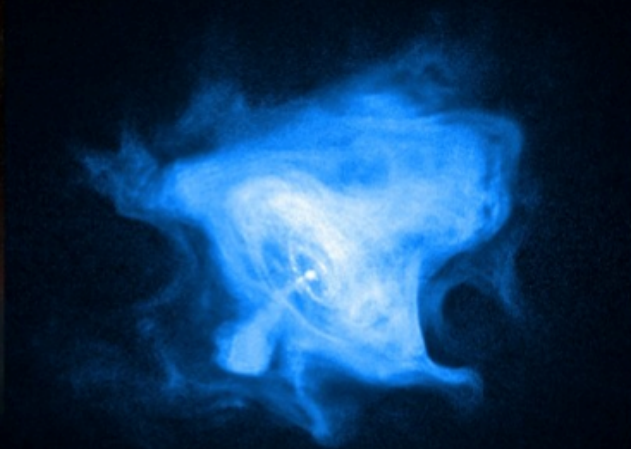
- PWN
- Binary XRB PSR Gamma BIN
- HBL IBL FRI FSRQ  
Blazar LBL AGN  
(unknown type)
- Shell SNR/Molec. Cloud  
Composite SNR  
Superbubble
- Starburst
- DARK UNID Other
- uQuasar Star Forming  
Region Globular Cluster  
Cat. Var. Massive Star  
Cluster BIN BL Lac  
(class unclear) WR



To increase **x 10** the number of VHE sources

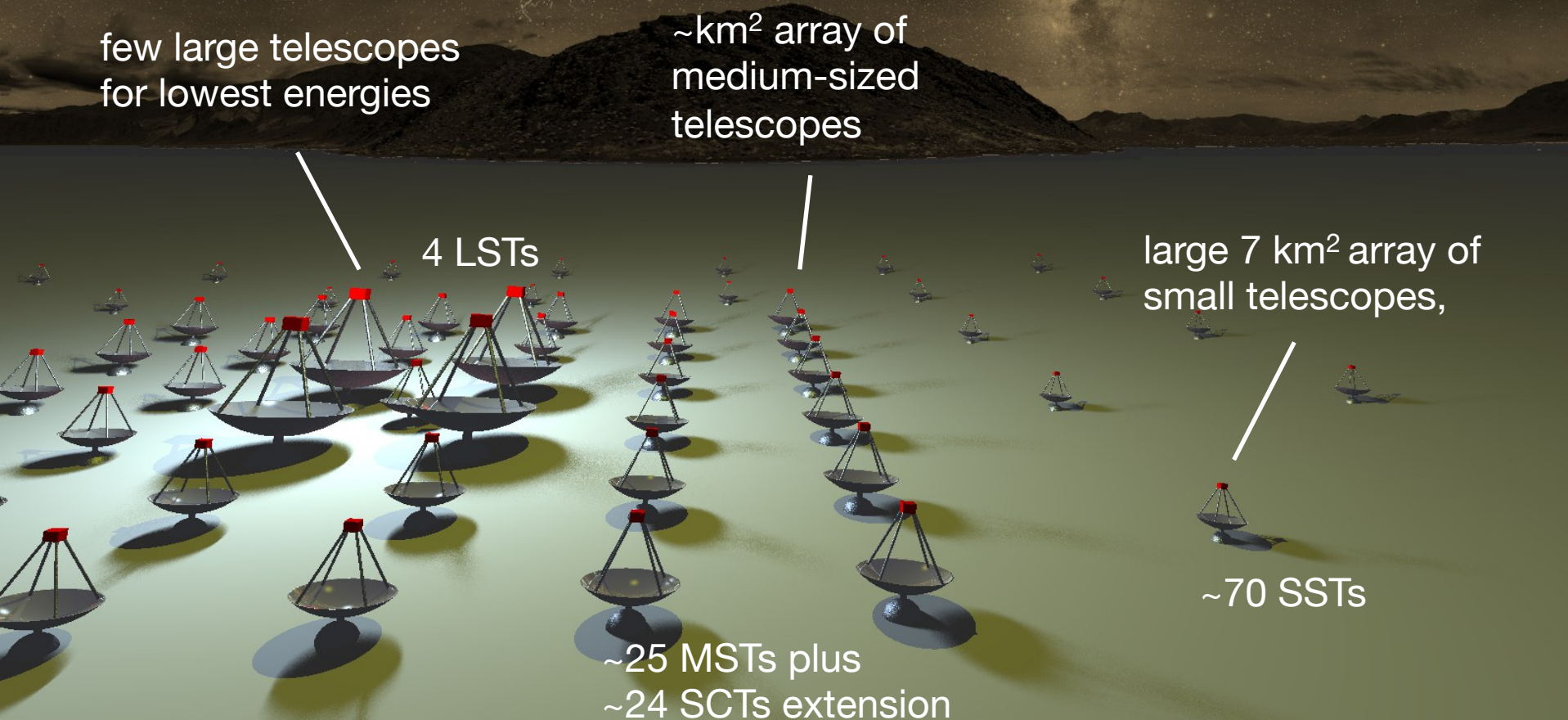


**The Fermi Sky ( $>1$  GeV)**

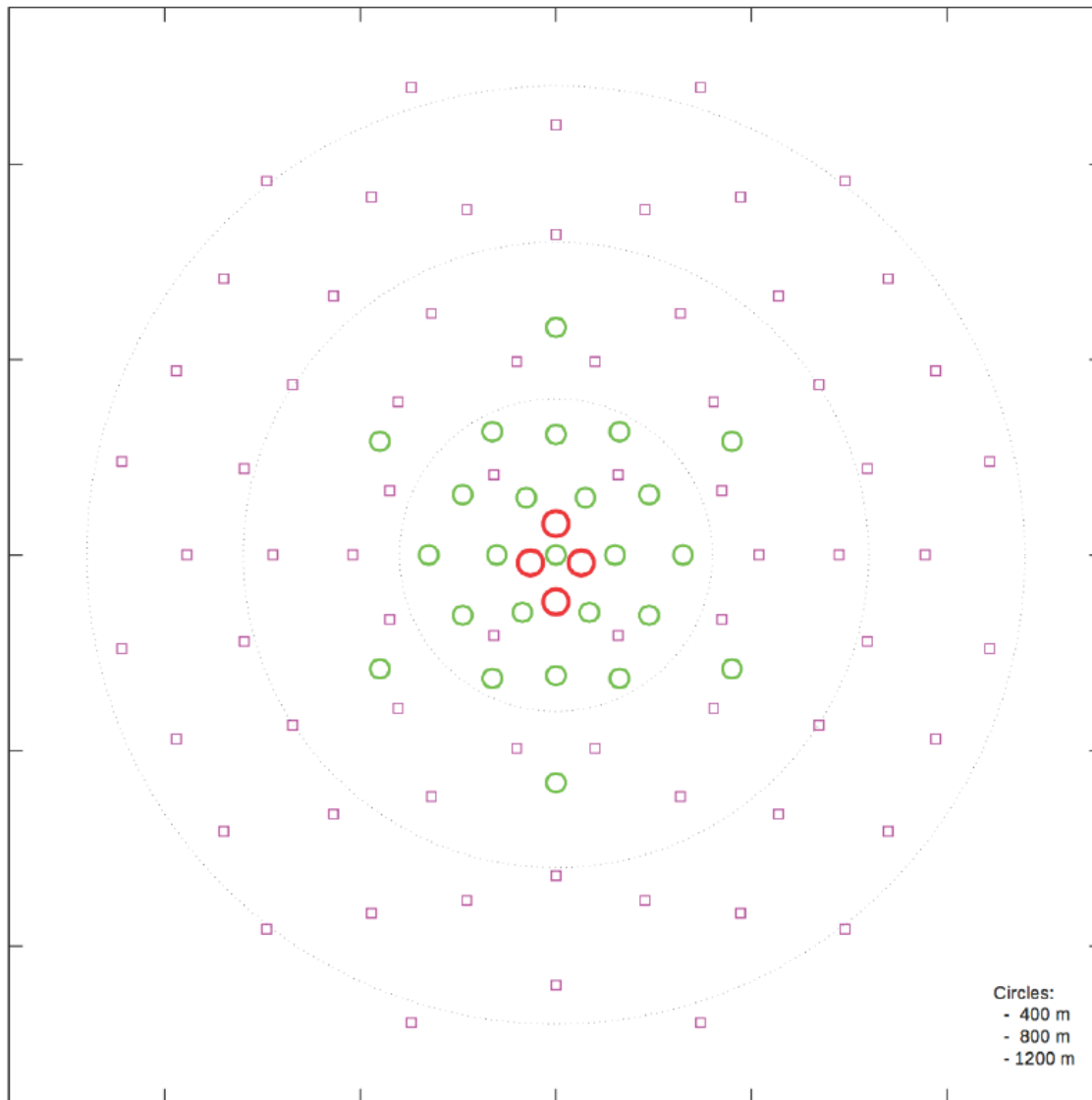


# Science-optimization under budget constraints:

- Low-energy  $\gamma$  high  $\gamma$ -ray rate, low light yield  
→ require small ground area, large mirror area
- High-energy  $\gamma$  low  $\gamma$ -rate, high light yield  
→ require large ground area, small mirror area



# FINAL LAYOUT – SOUTHERN AND NORTHERN SIDE



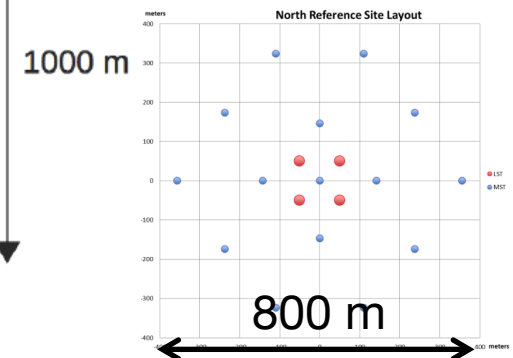
4 LSTs, 25 MSTs, 70 SSTs

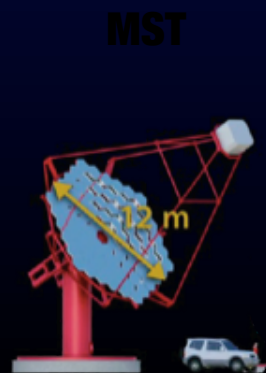
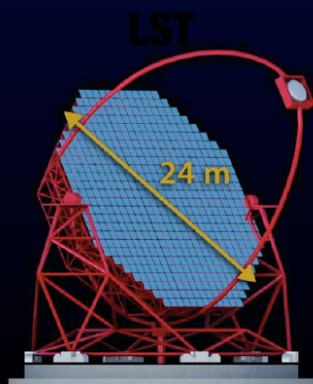
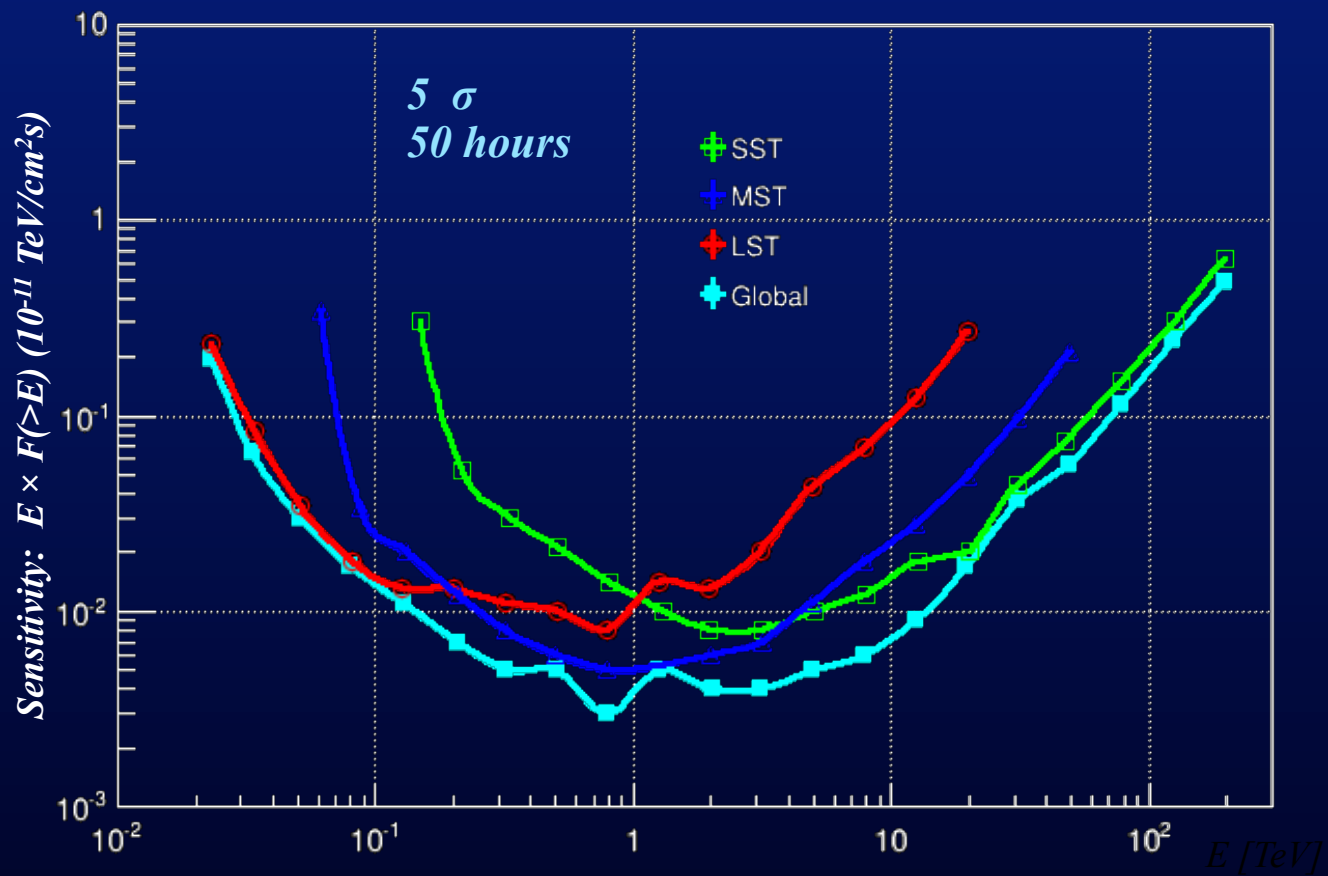
Type:	
23-m LST	○
12-m MST	○
4-m SST	□

North site

4 large LST

15 medium MST





# ASTRI

end-to-end prototype



ASTRI first light

Polaris

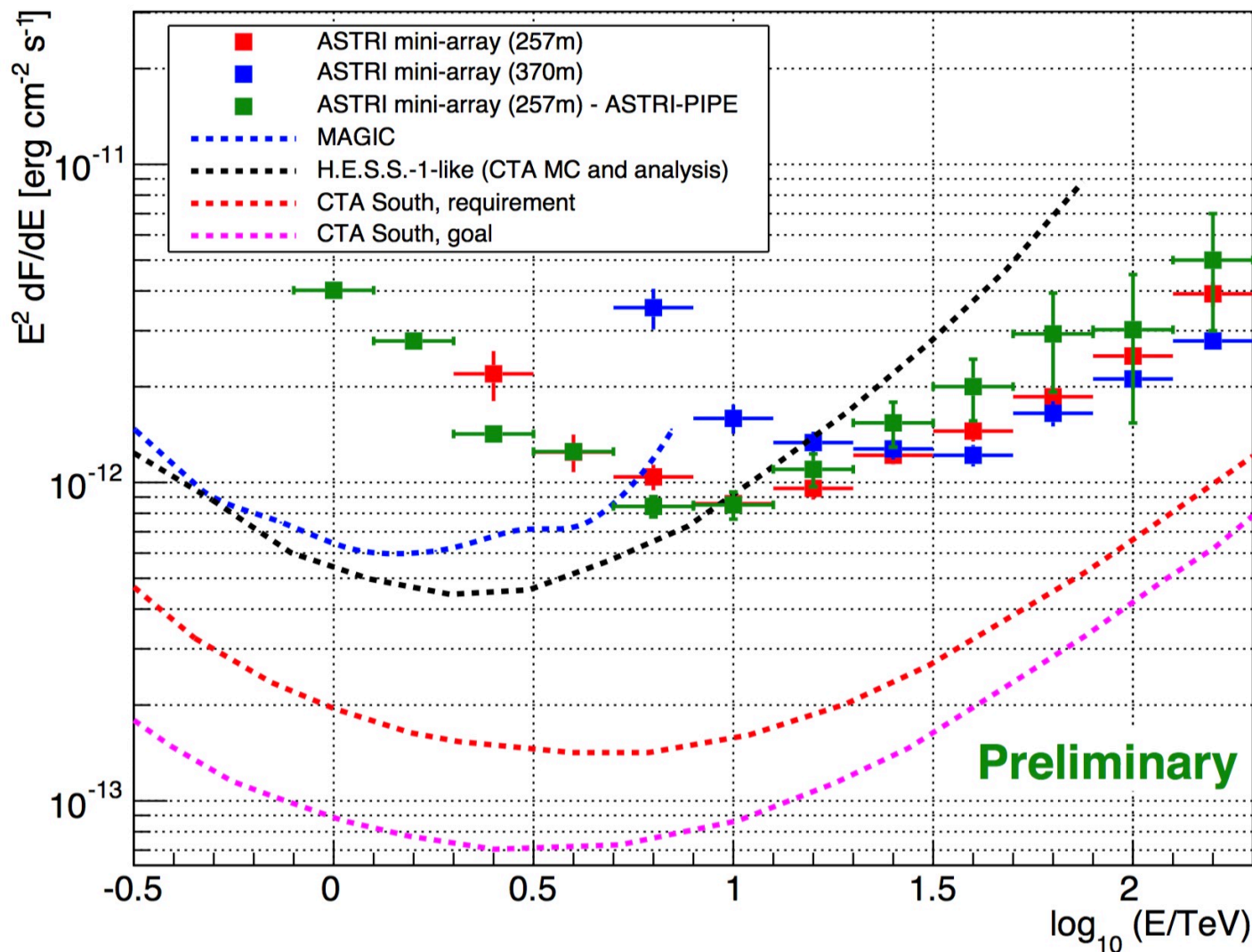
Serra la Nave, May 28<sup>th</sup> 2015



# Next task: building a mini-array



# To start unveiling the sky at $E > 10\text{TeV}$



---

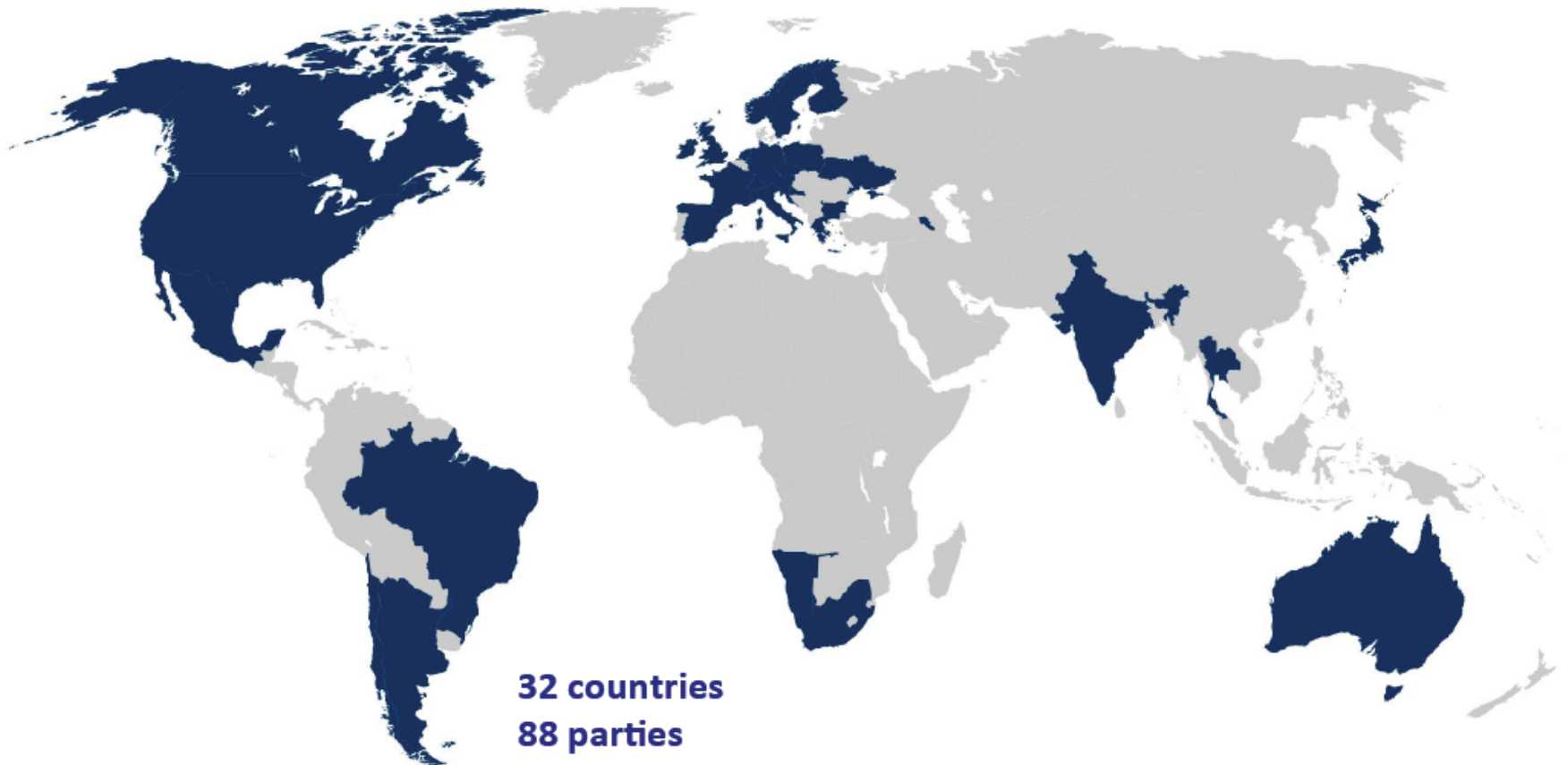
# CTA CONSORTIUM

**Spokesperson      Werner Hofmann (Heidelberg)**

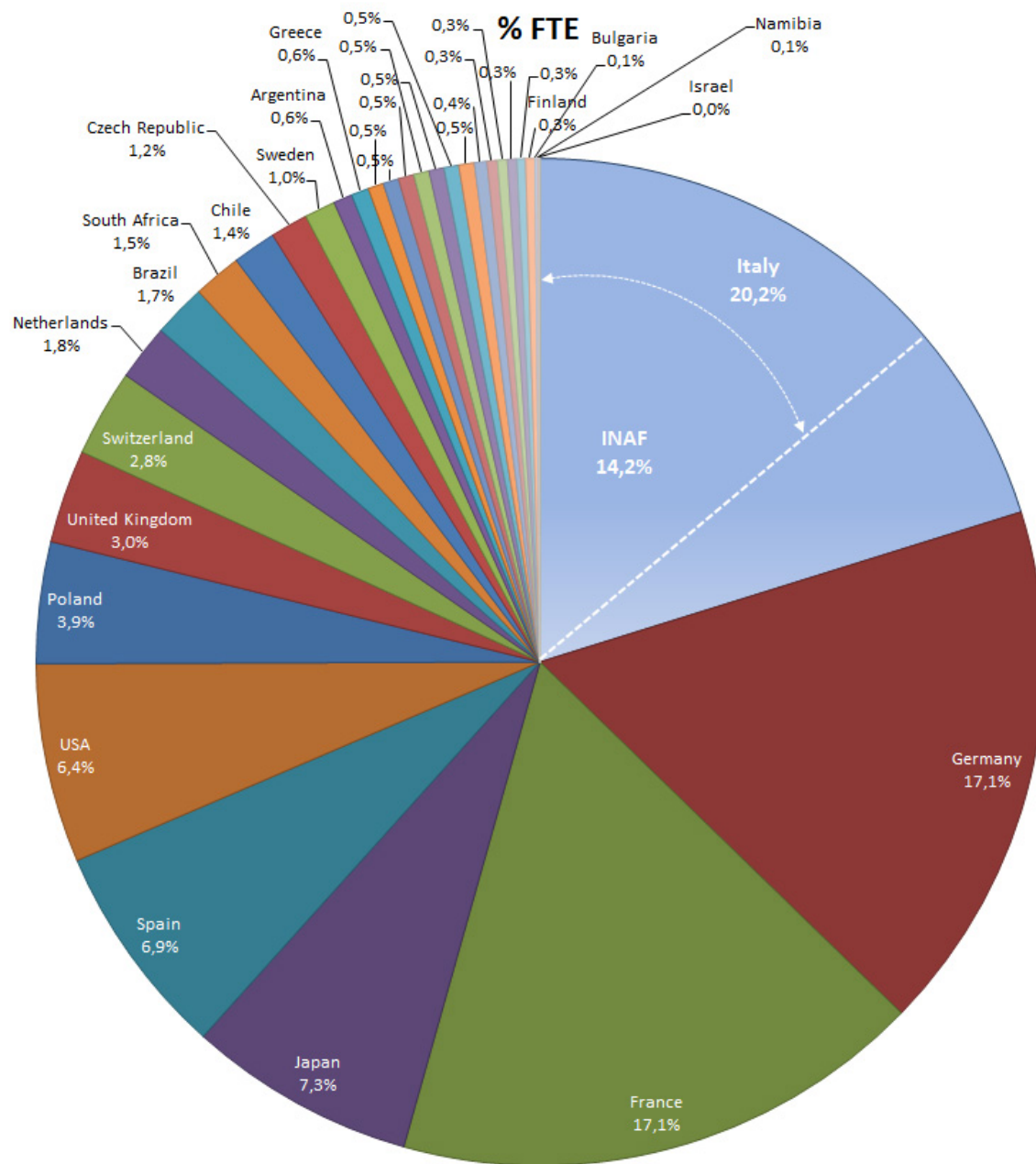
**Co-spokesperson   René Ong (UCLA)**

# Consortium status

Maggio 2016



**32 countries**  
**88 parties**  
**202 institutes**  
**1308 members (438 FTE)**



 **Country : Italy** (26)

 **Party : INAF** (16)

-  INAF - Istituto di Astrofisica Spaziale e Fisica Cosmica di Palermo
-  INAF - Osservatorio Astrofisico di Torino, Italy
-  INAF - Osservatorio Astronomico di Bologna
-  INAF - Osservatorio Astronomico di Brera
-  INAF - Osservatorio Astrofisico di Catania
-  INAF - Osservatorio Astronomico di Padova
-  INAF - Osservatorio Astronomico di Roma
-  INAF - Telescopio Nazionale Galileo
-  Project Department, INAF
-  Istituto di Astrofisica Spaziale e Fisica Cosmica
-  Istituto di Astrofisica Spaziale e Fisica Cosmica- Bologna
-  Osservatorio Astrofisico di Arcetri
-  **IAPS Istituto di Astrofisica e Planetologia spaziali**
-  Institute of Advanced Study of Pavia
-  Osservatorio Astronomico di Trieste and INFN Sezione di Trieste
-  Istituto di Radioastronomia, INAF

 **Party : INFN Consortium** (10)