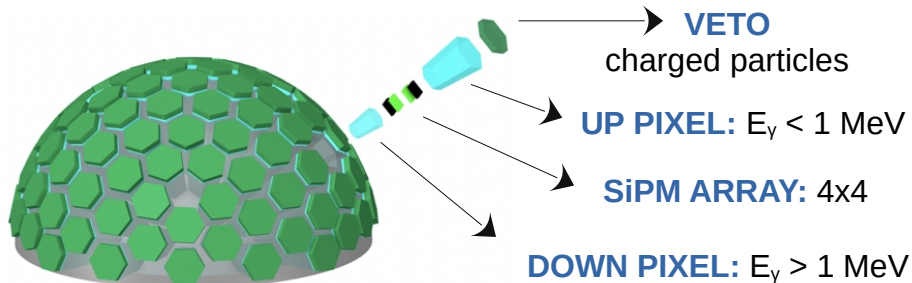




# WINK:

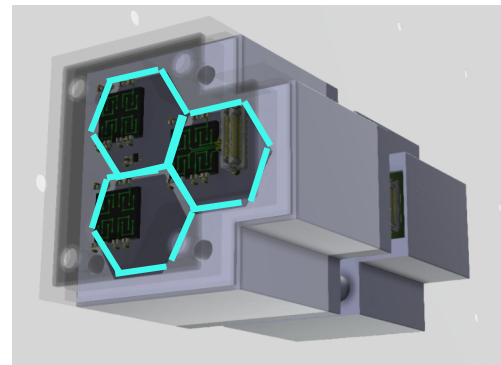
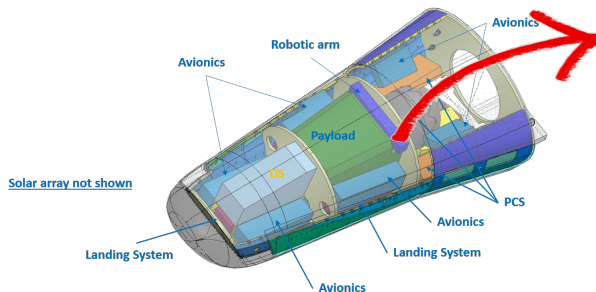
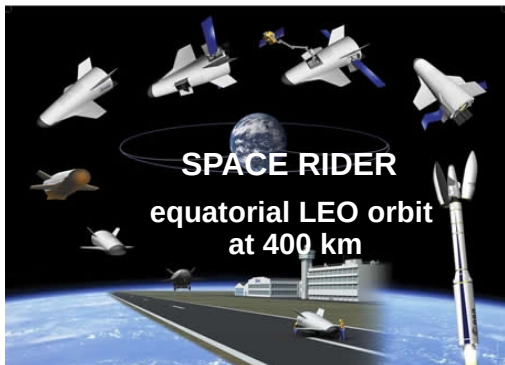
## the Space Rider pathfinder for the Crystal Eye X and gamma-ray detector

Anastasio A., Barbato F.C.T., Boiano A., Colalillo R., De Asmundis R., De Mitri I., Di Giovanni A., Fernandez Alonso M., Garufi F., Guarino F., Smirnov A., Valore L., Vanzanella A.



- space based X and  $\gamma$ -ray future all sky monitor active from 10keV up to 30MeV, an energy range still under explored;
- 40cm diameter hemisphere made by 112 pixels made by LYSO crystals;
- wide FOV (6 sr), a good sky localization capability and a large effective area (6 times higher than Fermi-GBM @ 1MeV).

See Felicia Barbato's talk for more details



**WINK**  
(PRIN 2022)  
3 full scale pixels  
(FOV=1sr)

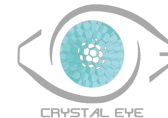
Flight scheduled  
for October 2025



# WINK:

## the Space Rider pathfinder for the Crystal Eye X and gamma-ray detector

Anastasio A., Barbato F.C.T., Boiano A., Colalillo R., De Asmundis R., De Mitri I., Di Giovanni A., Fernandez Alonso M., Garufi F., Guarino F., Smirnov A., Valore L., Vanzanella A.

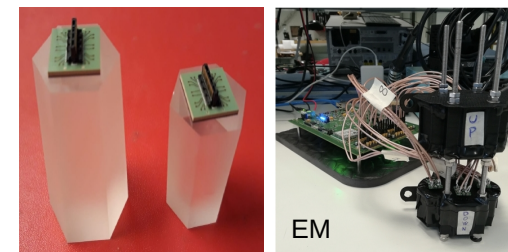


**SPACE OBSERVATION MODE** (6 weeks): exposed to deep space to characterize the cosmic background (GRB observation);

**CALIBRATION MODE:** 1 minute of calibration using the emission spectrum of each crystal after a relevant event or each 30 min;

**EARTH OBSERVATION MODE** (2 weeks): pointing at the Earth for TGF detection.

Thanks to a breadboard model and an Engineering Model (EM), some parameters were defined and first measurements performed.



- EPIC Crystal with polished surfaces and Enhanced Specular Reflector (ESR) will be used  
→ highest light yield, fast response and better energy resolution;
- BC408 will be used for the anticoincidence detector ;
- The DAQ electronics will be based on CITIROC-1A asic.

