

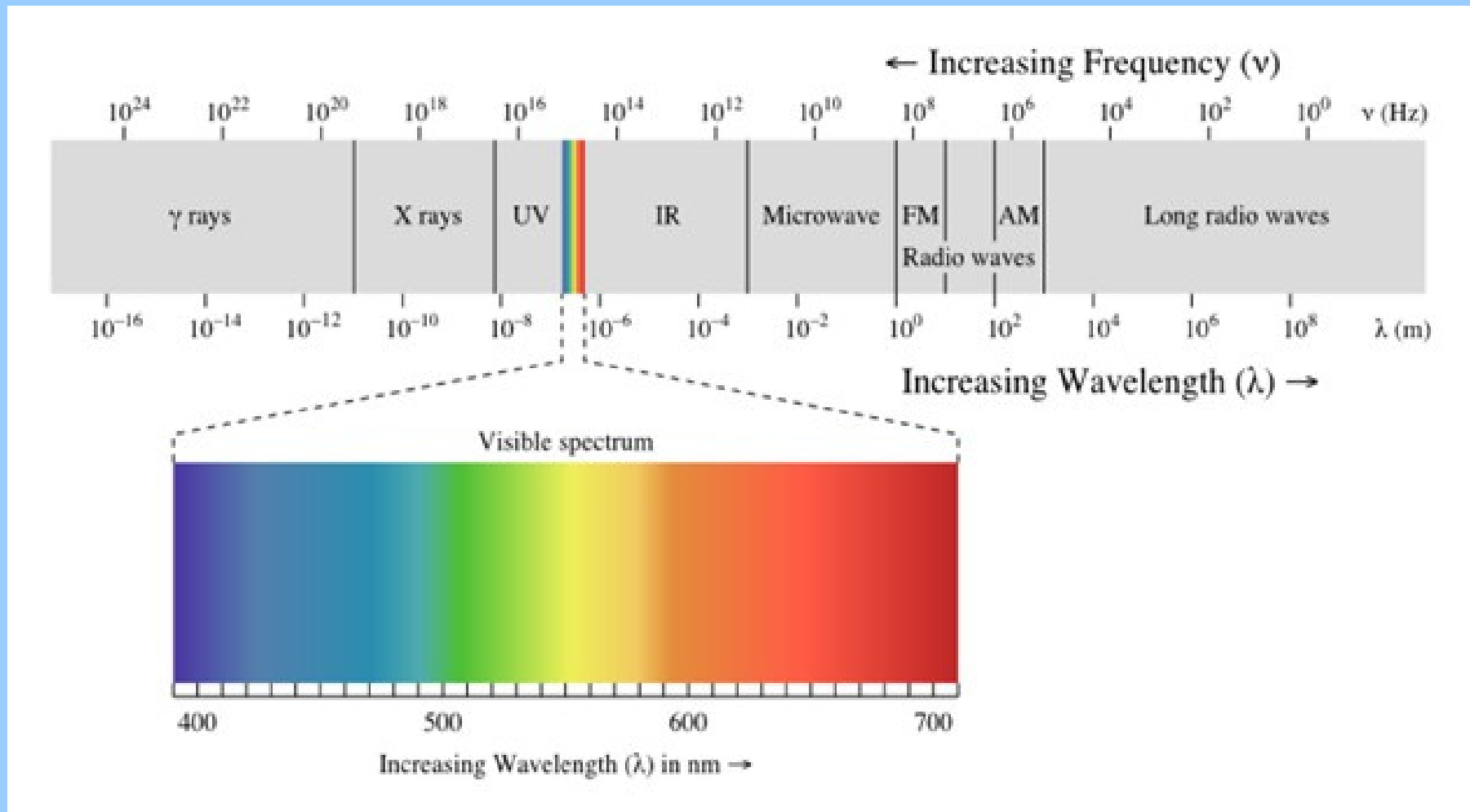
Gamma-ray astronomy on the way to uncover the mystery of Dark Matter of Universe

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COPUOS Vienne, June 2010



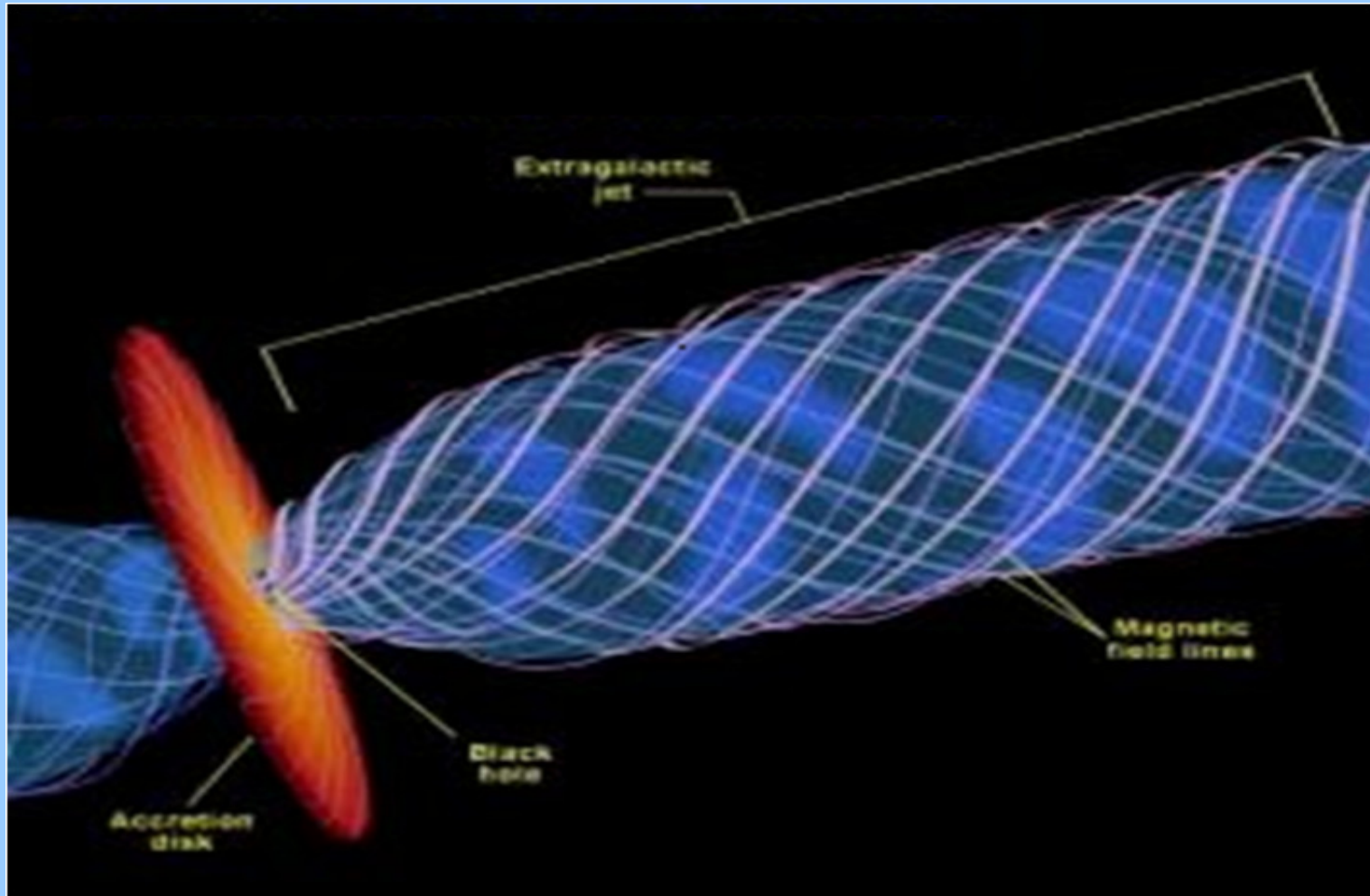
Ranges of electromagnetic cosmic radiation



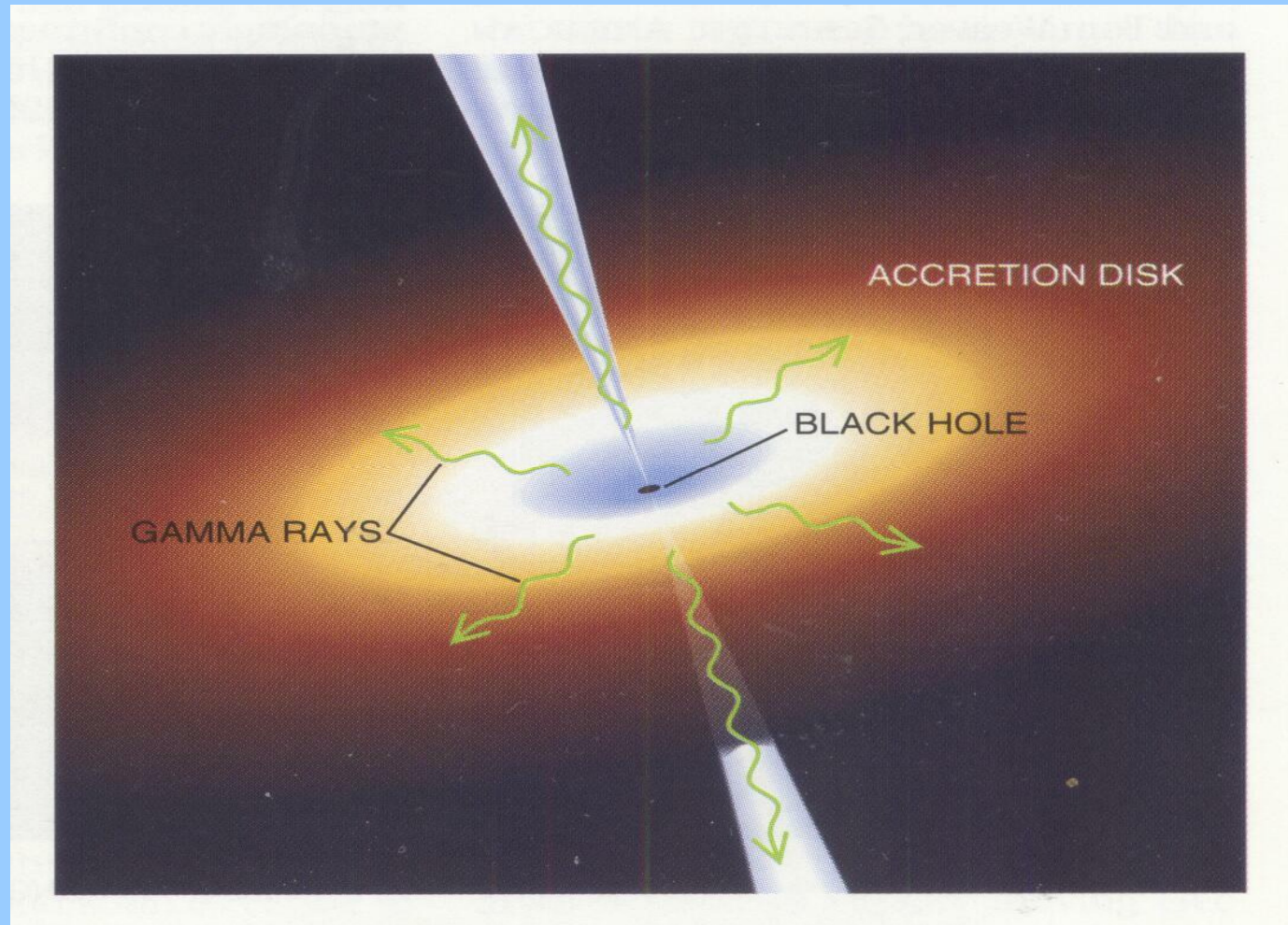
Shock fronts of "Crab Nebula"



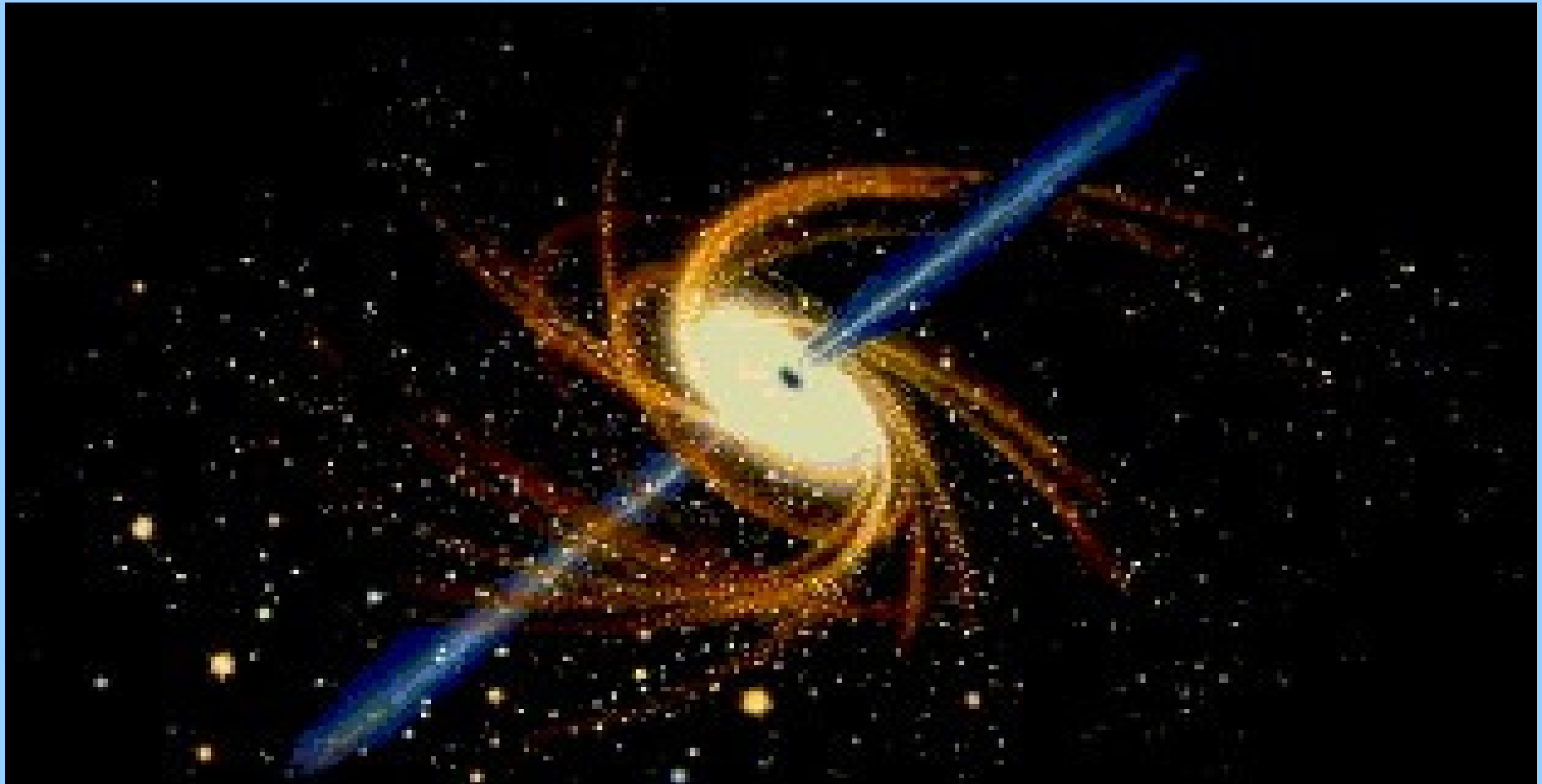
Formation of extragalactic jets from black hole accretion disk



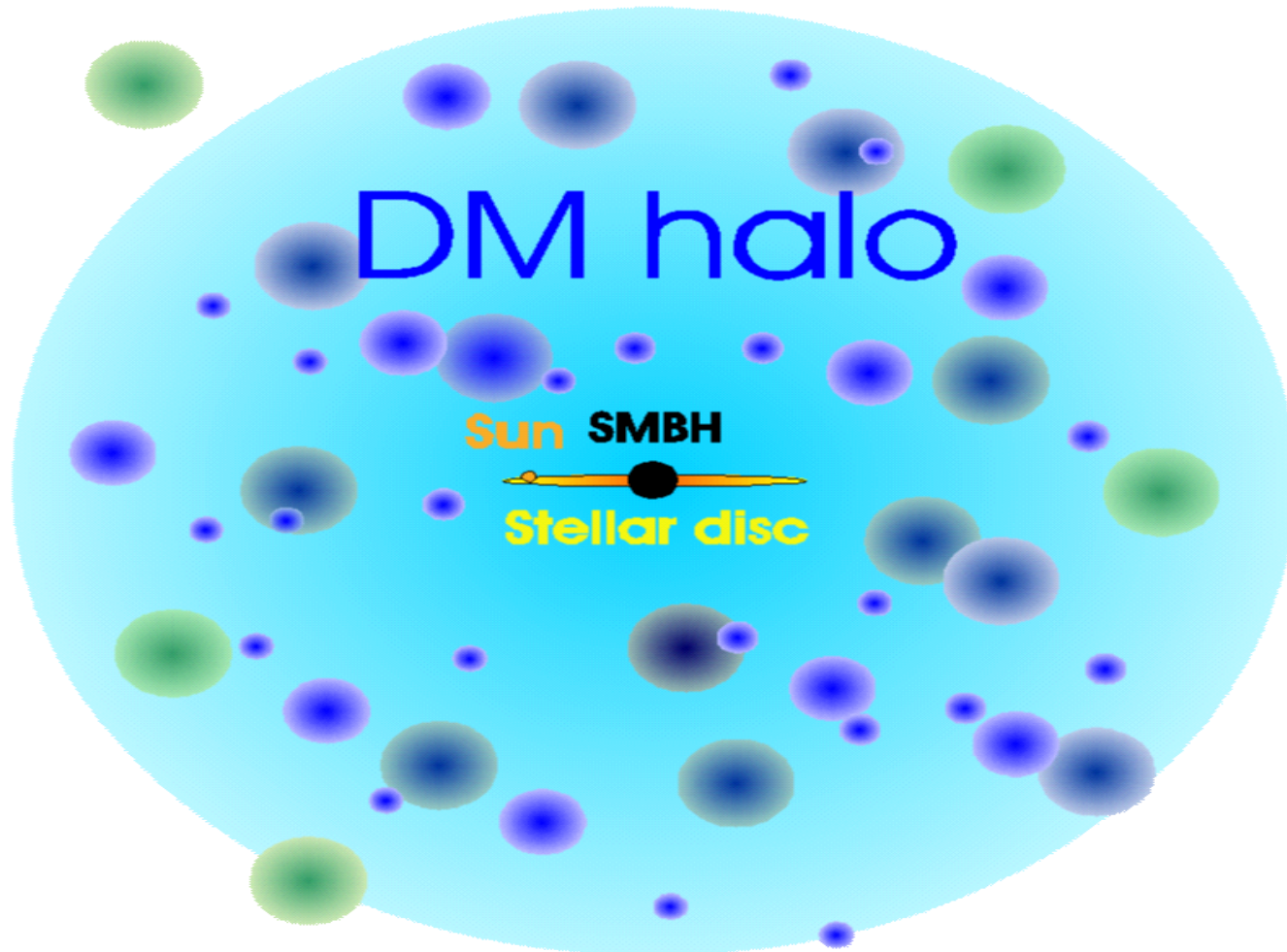
Microquasar model



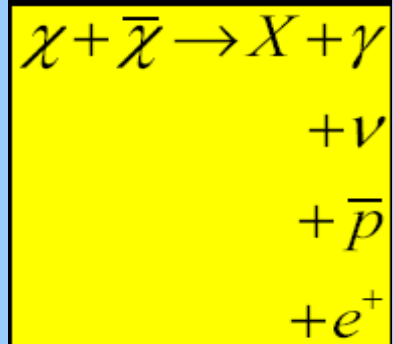
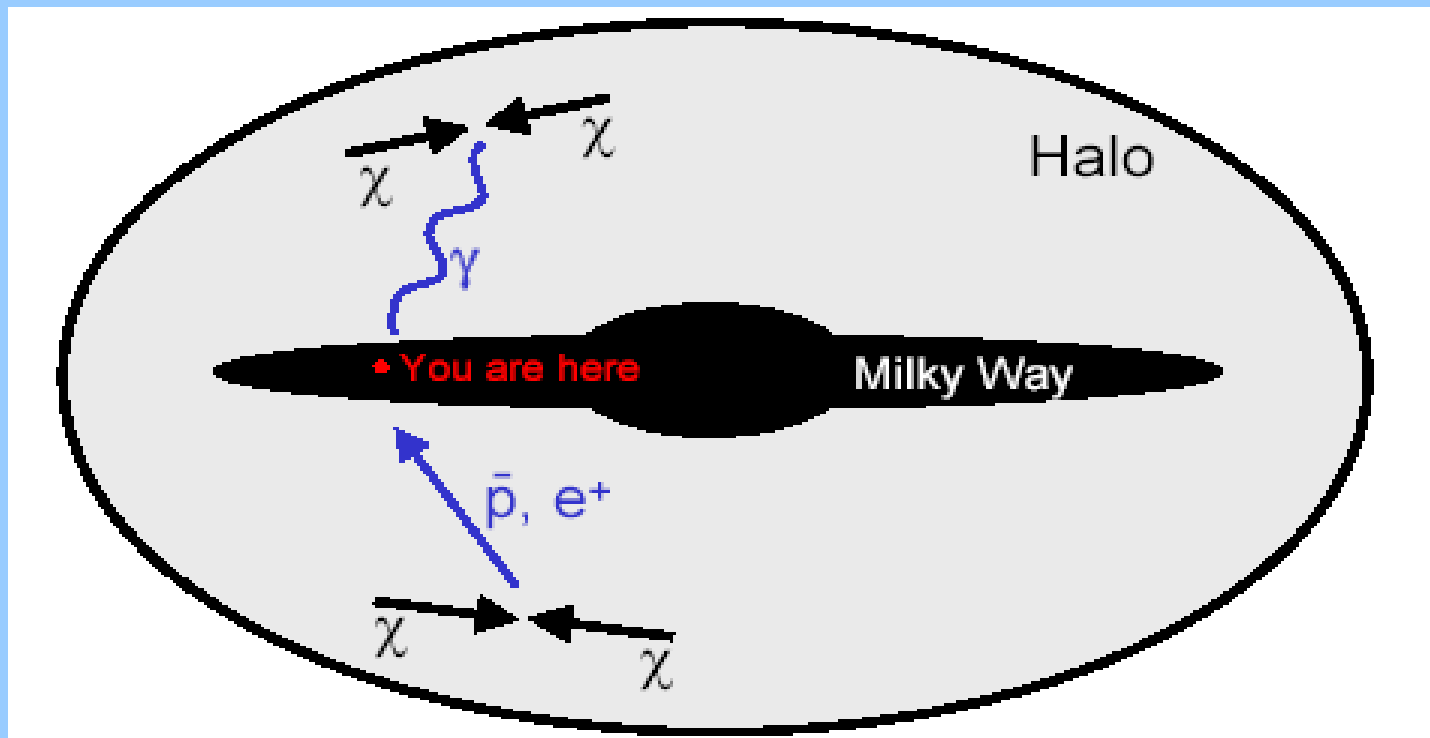
Model of galaxy with an active nucleus



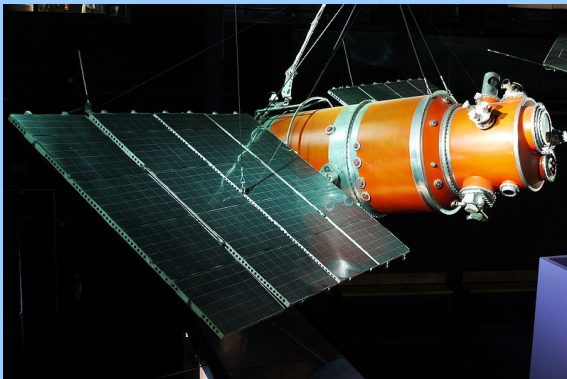
Small-scale DM clumps in the Galactic halo



WIMP annihilation

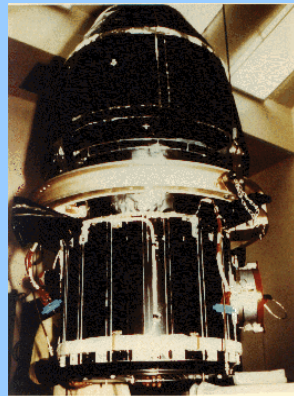


SPACE GAMMA-RAY TELESCOPES



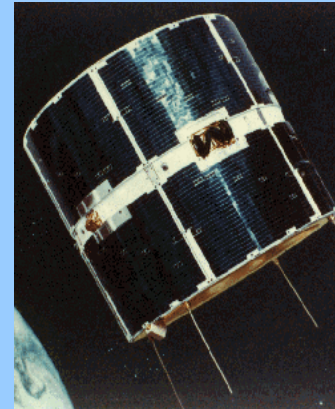
ANNA-3
(Cosmos - 251, 264)

1968, 1969
200 MeV – 1 GeV



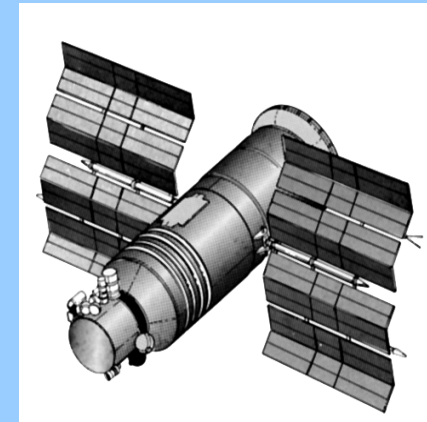
SAS-2

1972 – 1973
20 MeV – 1 GeV



COS-B

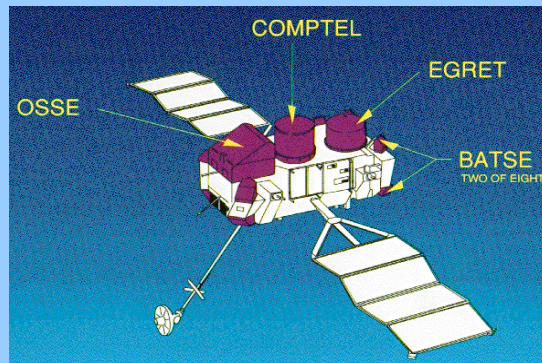
1975 – 1982
30 MeV – 5 GeV



GAMMA-1

1990 – 1992
30 MeV – 5 GeV

SPACE GAMMA-RAY TELESCOPES

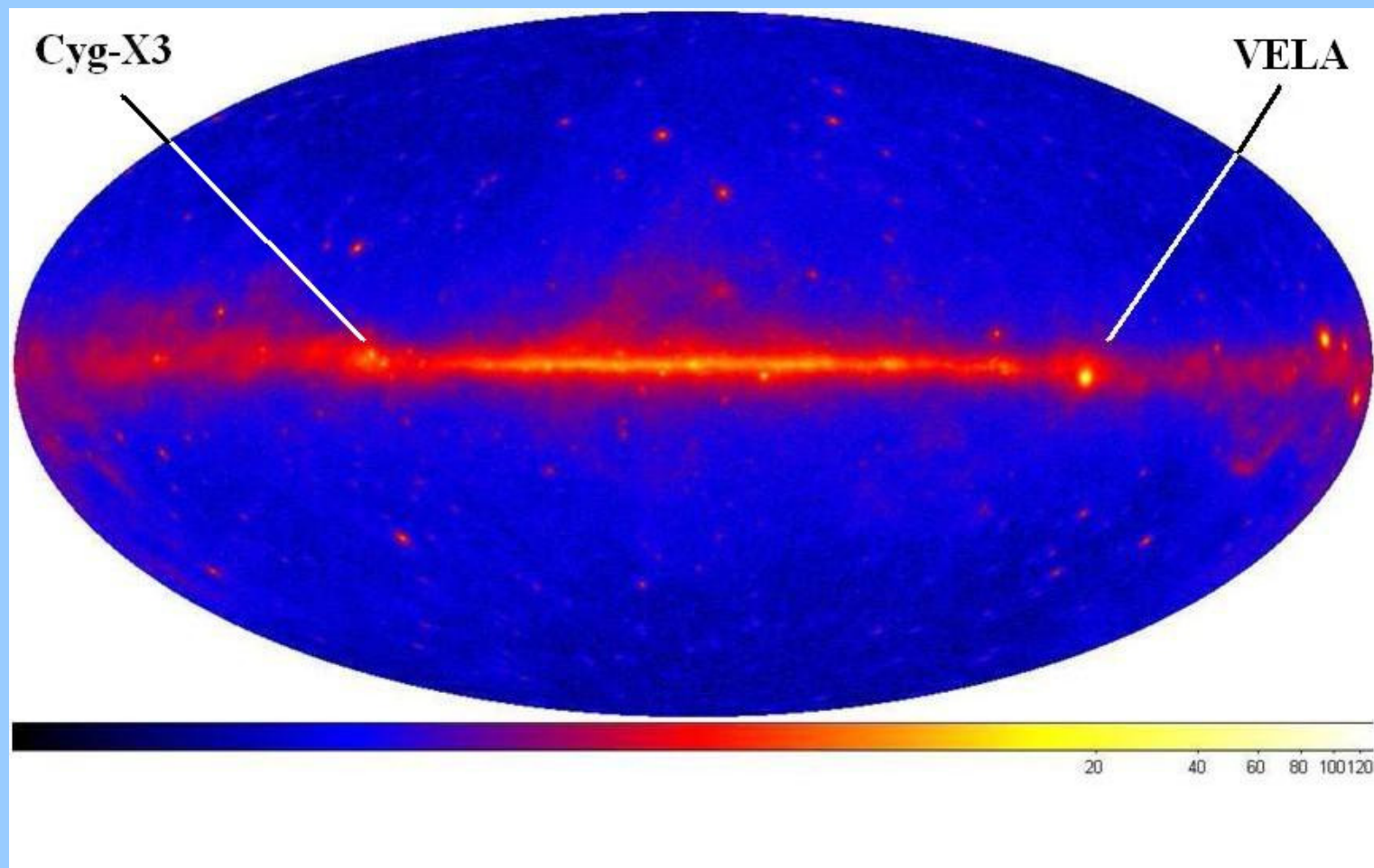


EGRET
(CGRO)
1991- 1998
30 MeV - 30 GeV

AGILE
2007 – 2010
100 MeV – 50 GeV

FERMI
2008
100 MeV – 100 GeV

Map of high-energy gamma-radiation measured by gamma-ray telescope "Fermi/LAT"



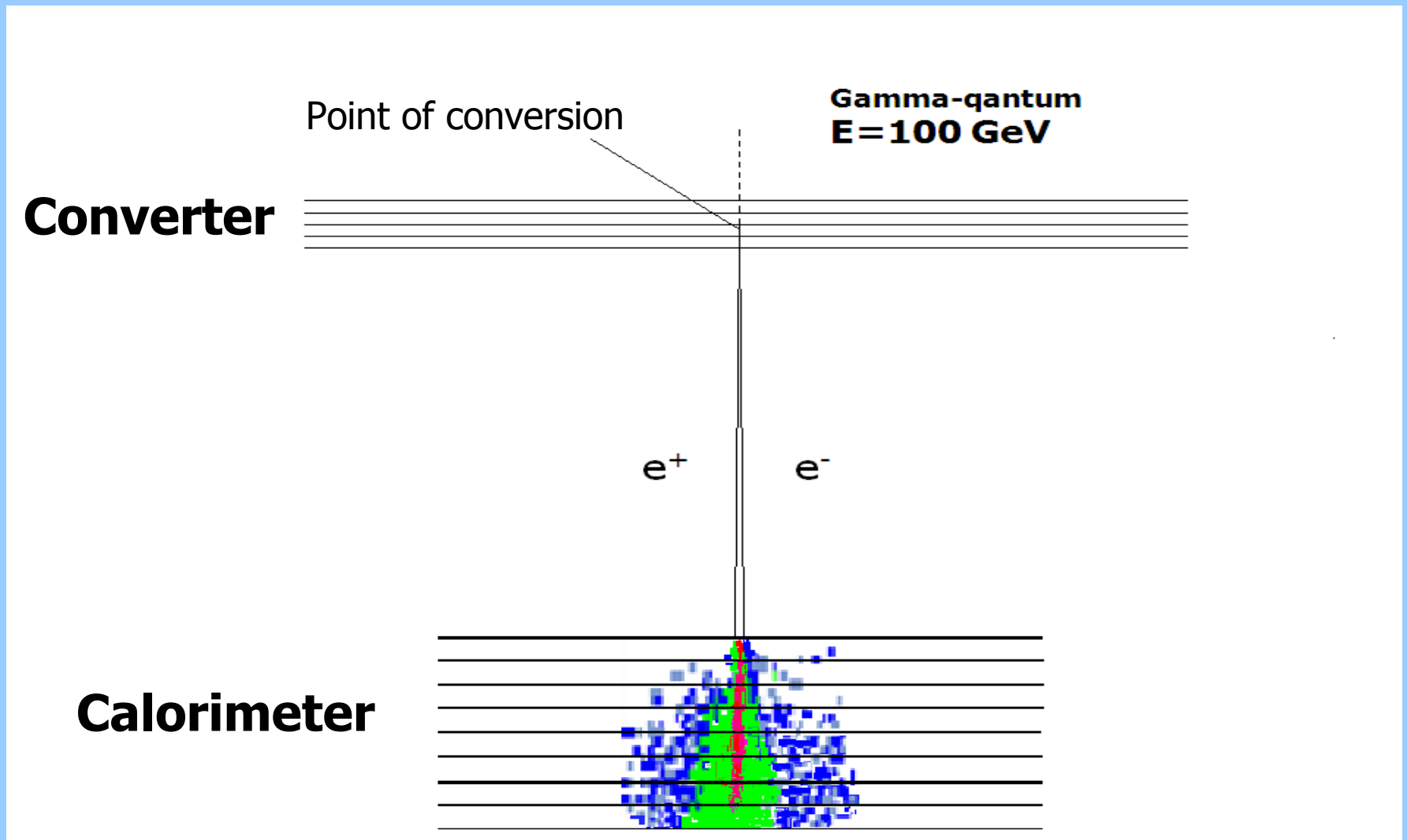


MAIN SCIENTIFIC PROBLEMS OF GAMMA-400 EXPERIMENT

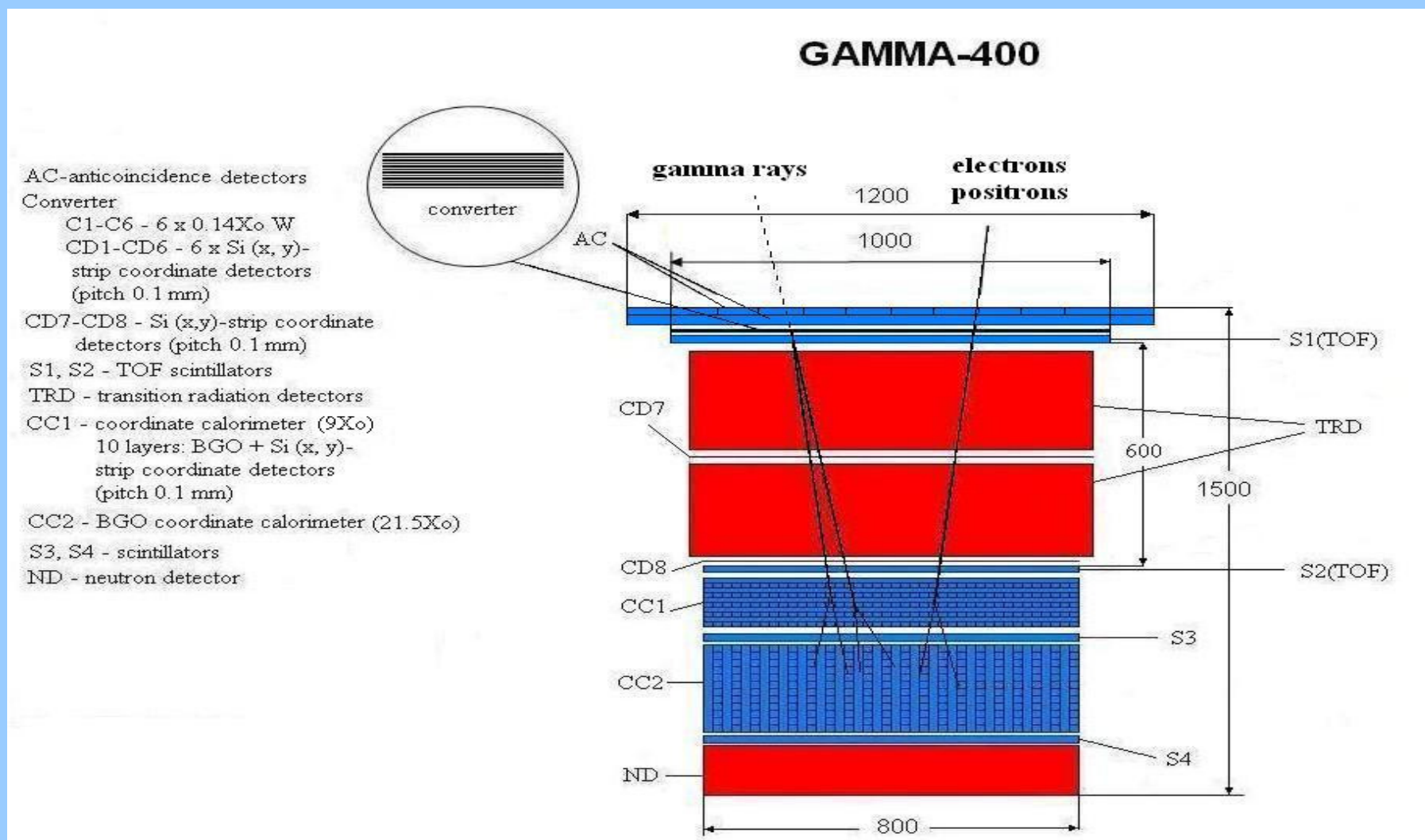
FIELDS OF INVESTIGATIONS

- The investigation of the nature of physical processes in the active astrophysical objects, responsible for the generation of gamma-radiation of ultra-high energy (1 GeV...3 TeV).
- The investigation of the nature and properties of particles, being according some models, the components of dark matter, via the processes of their annihilation and possibly the decay on gamma-quanta and electron-positron pairs.

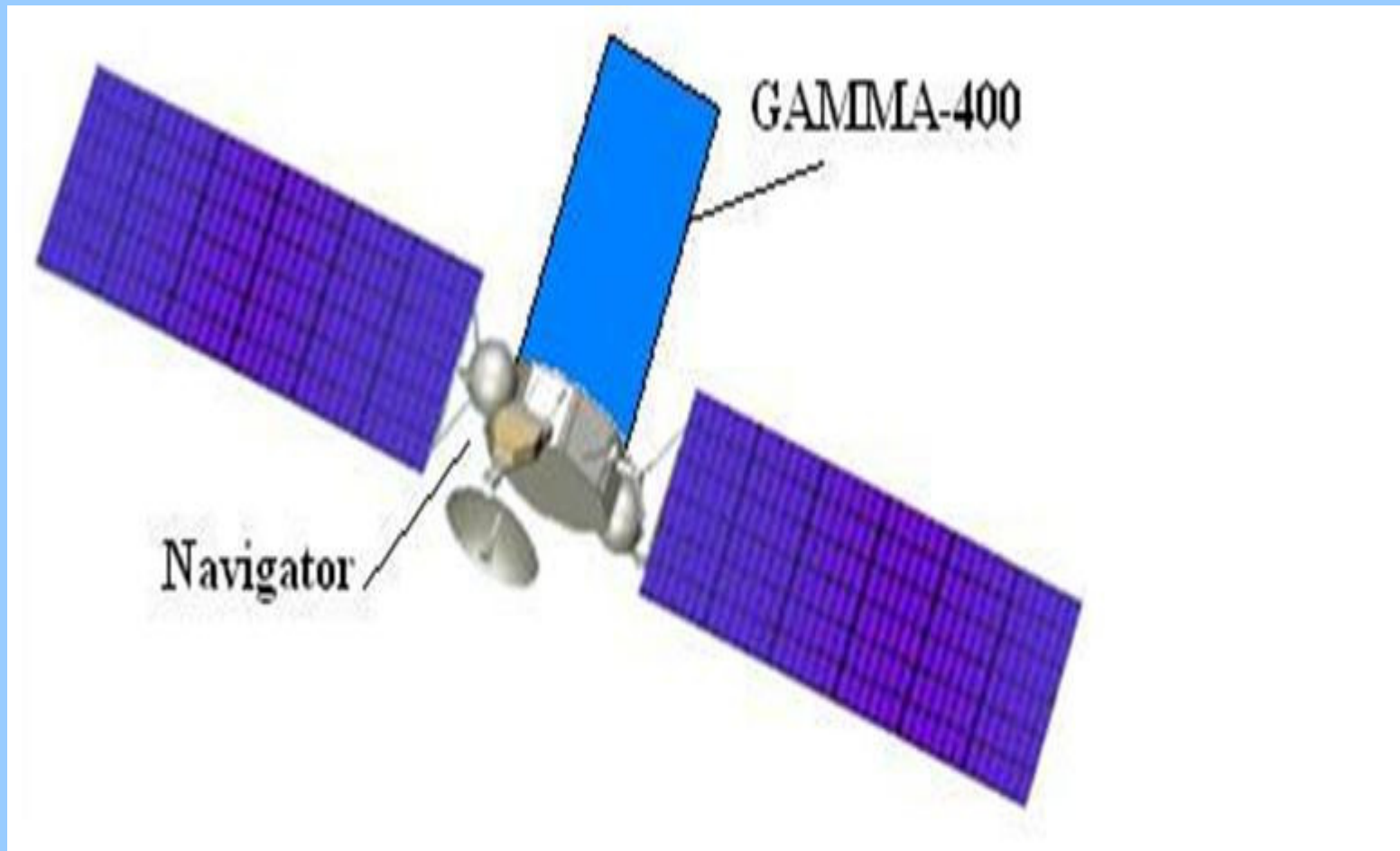
Angular resolution of the GAMMA-telescope



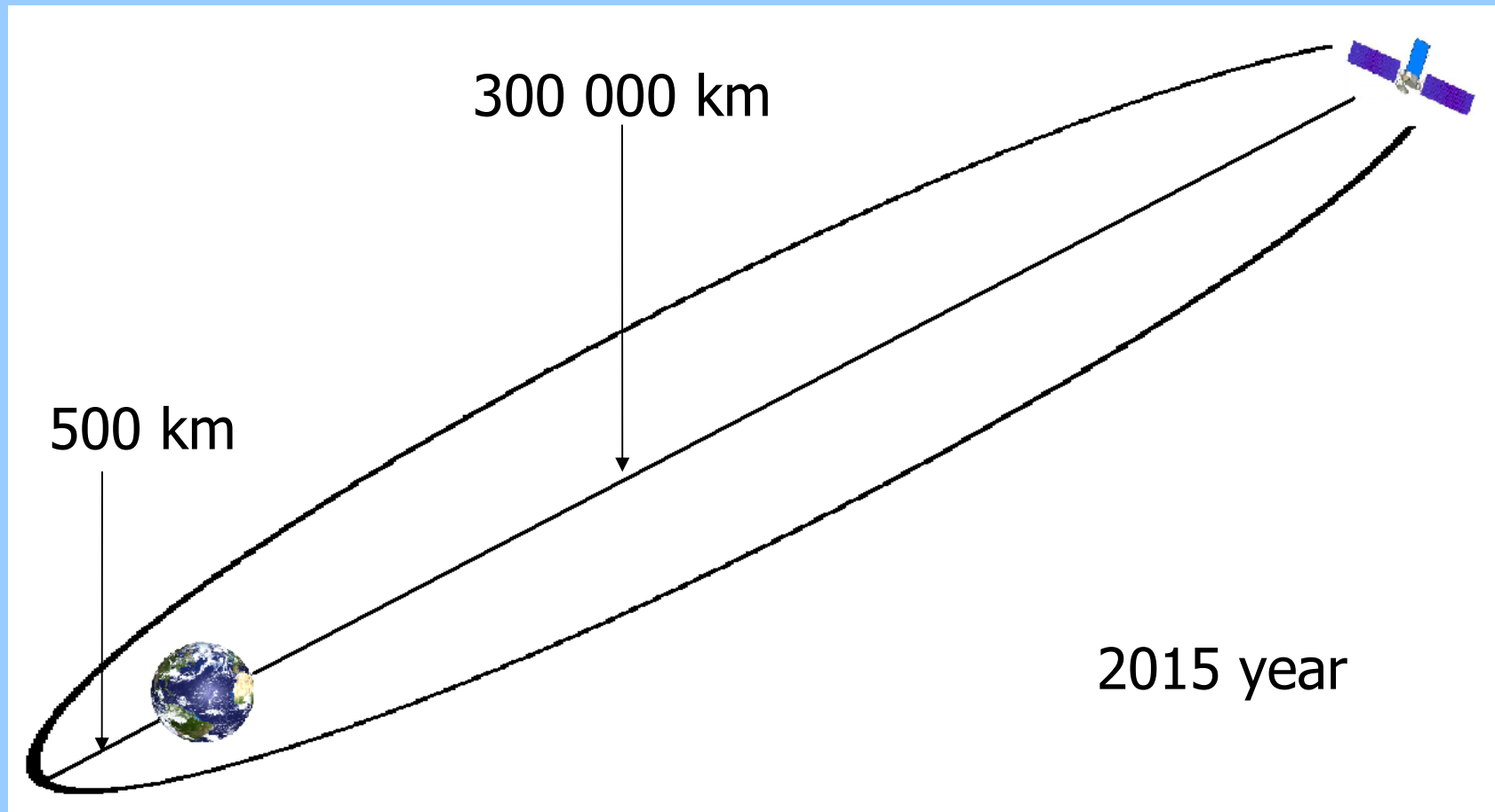
Physical scheme of the GAMMA-400 telescope



GAMMA-400 telescope on spacecraft "Navigator"



GAMMA-400 flight on spacecraft "Navigator"





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**Thank you
for your
attention!**