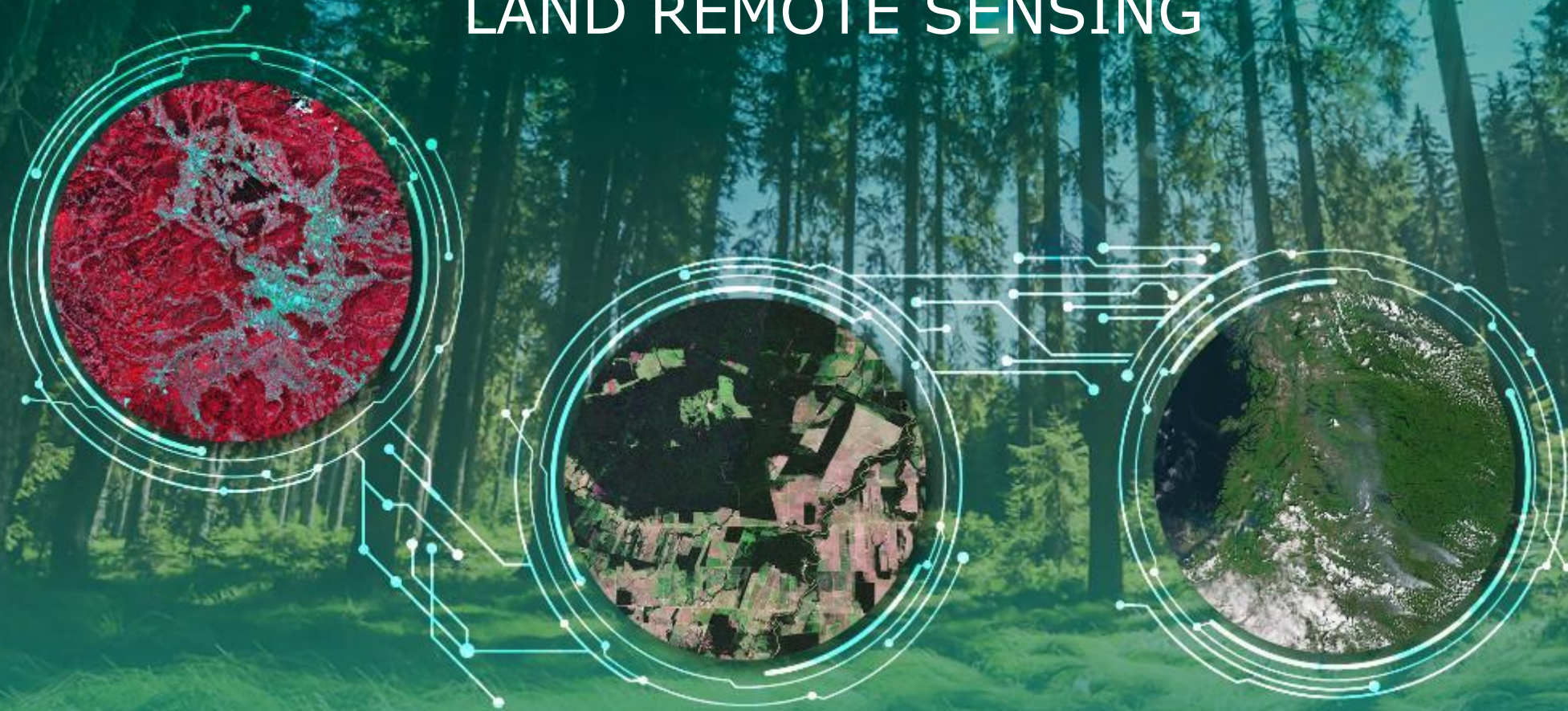


10TH ADVANCED TRAINING COURSE ON LAND REMOTE SENSING



Space-related activities in Slovenia: Astrophysics

Andreja Gomboc

Center for Astrophysics and Cosmology, University of Nova Gorica

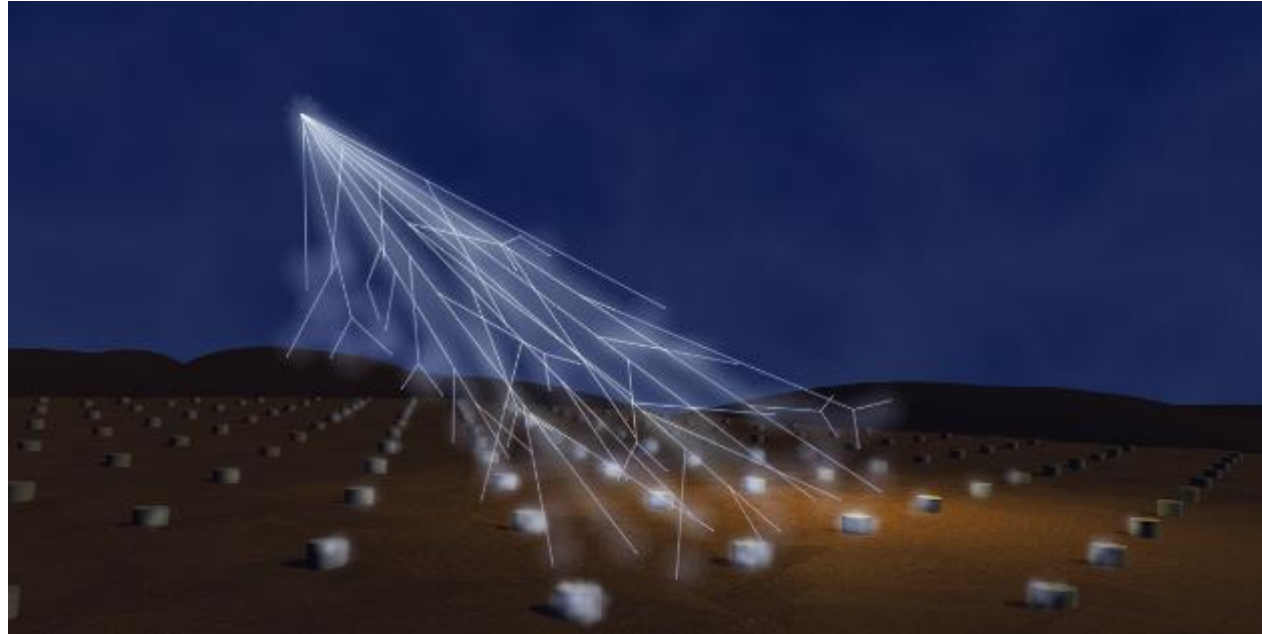


→ THE EUROPEAN SPACE AGENCY

from ground-based to spaceborne instruments



Very Large Telescope, ESO, Chile



Pierre Auger Observatory, Argentina

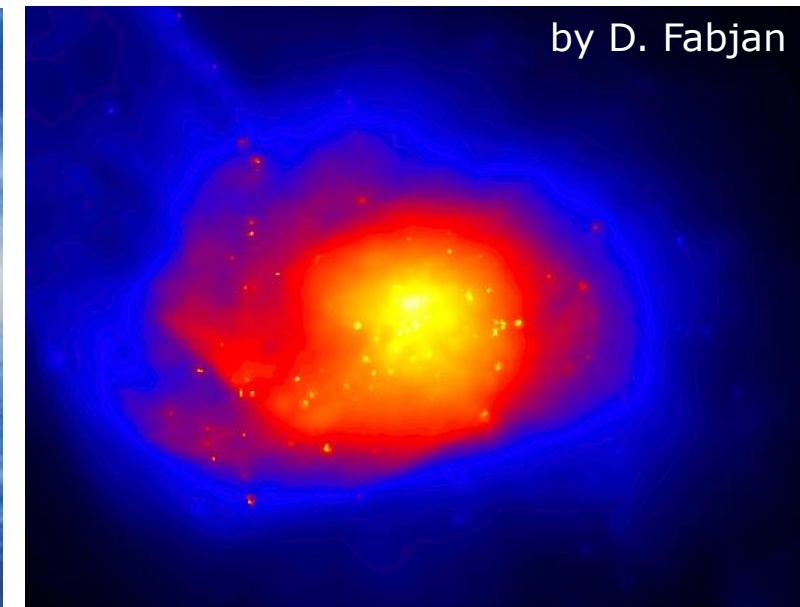
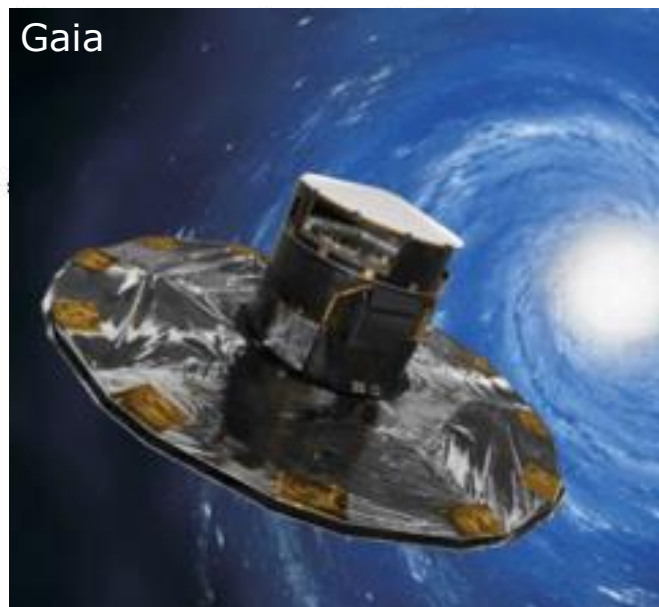
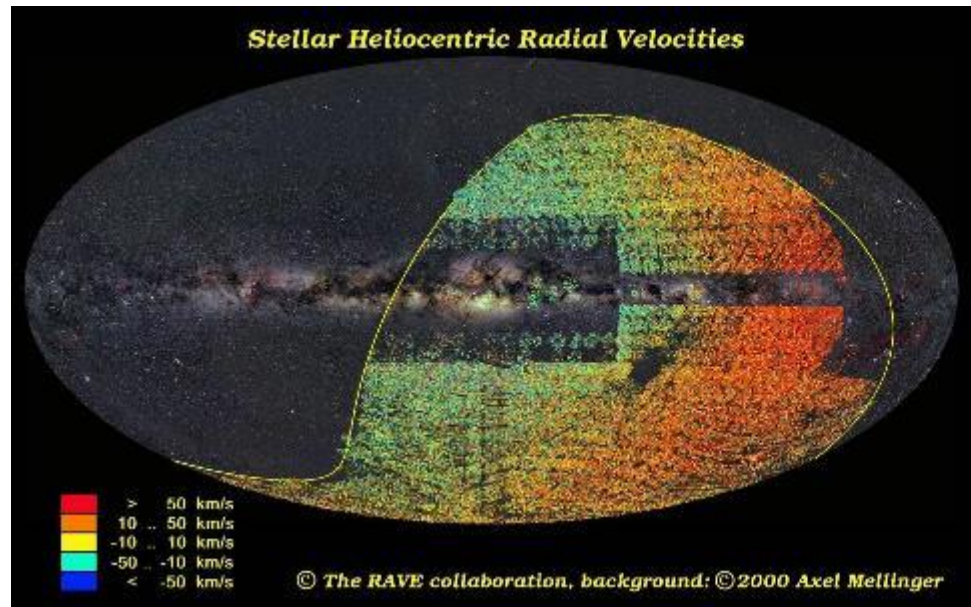


Fermi

Astronomical Observatory Golovec - since 1959

group: 1 full, 3 assistant professors, 1 postdoc, 3 PhD students = 8 researchers

research topics: Sun, properties of stars in our Milky Way (Gaia), galaxy clusters modelling

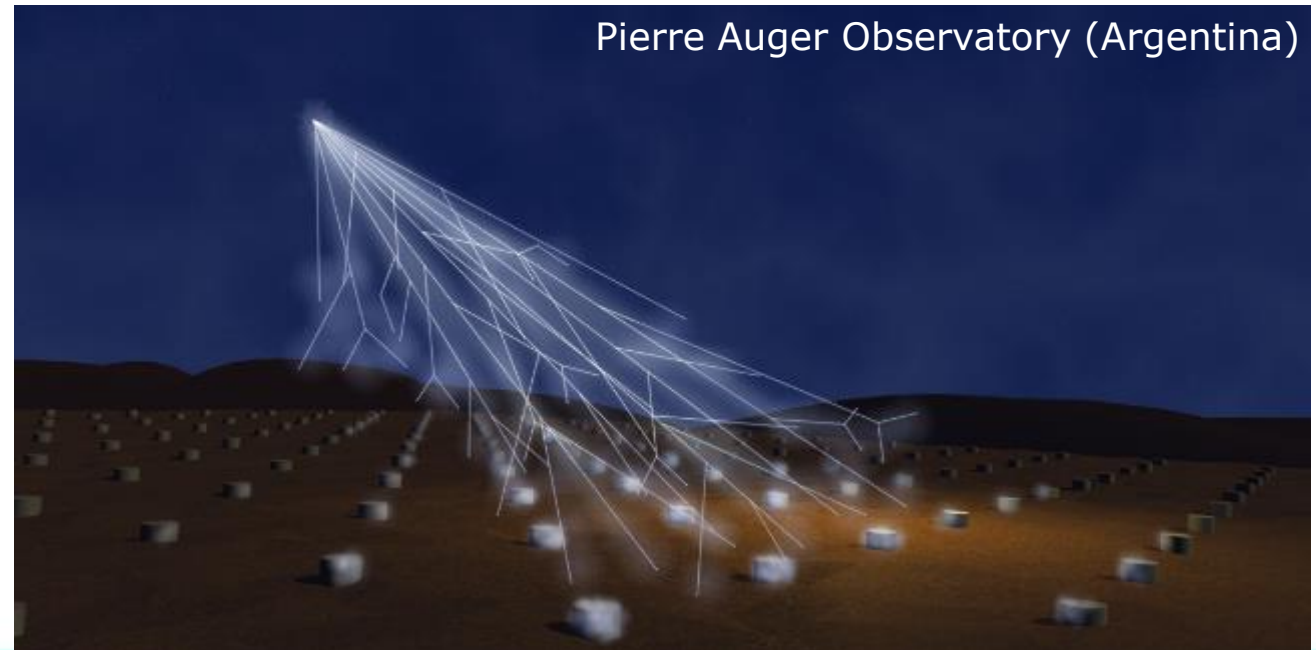
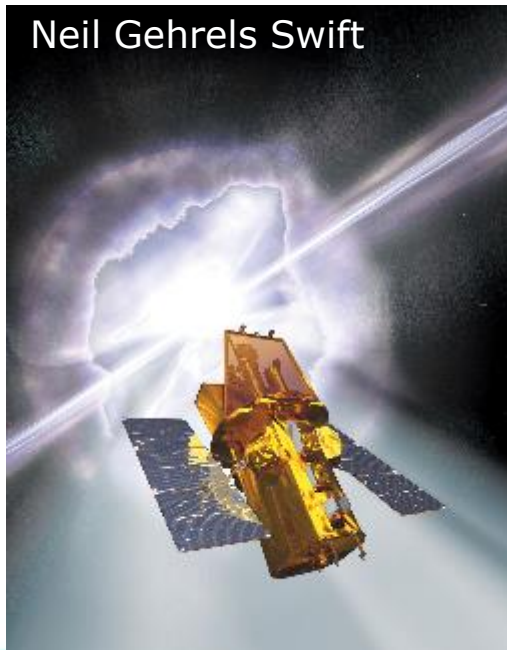


UNG - 1995

CAC: 5 full, 2 associate, 2 assistant professors, 3 postdocs, 6 PhD students = 18 researchers

research topics: **high-energy astrophysics and astrophysical transients:**

cosmic rays, gamma-rays, dark matter, black holes, active galactic nuclei, gamma-ray bursts, gravitational wave events, tidal disruption events, supernovae



Cherenkov Telescope Array- CTA

>100 Cherenkov telescopes

- ORM, La Palma
- near Paranal ESO, Chile

a range of questions in astrophysics and fundamental physics:

- understanding the origin and role of relativistic cosmic particles
- probing extreme environments



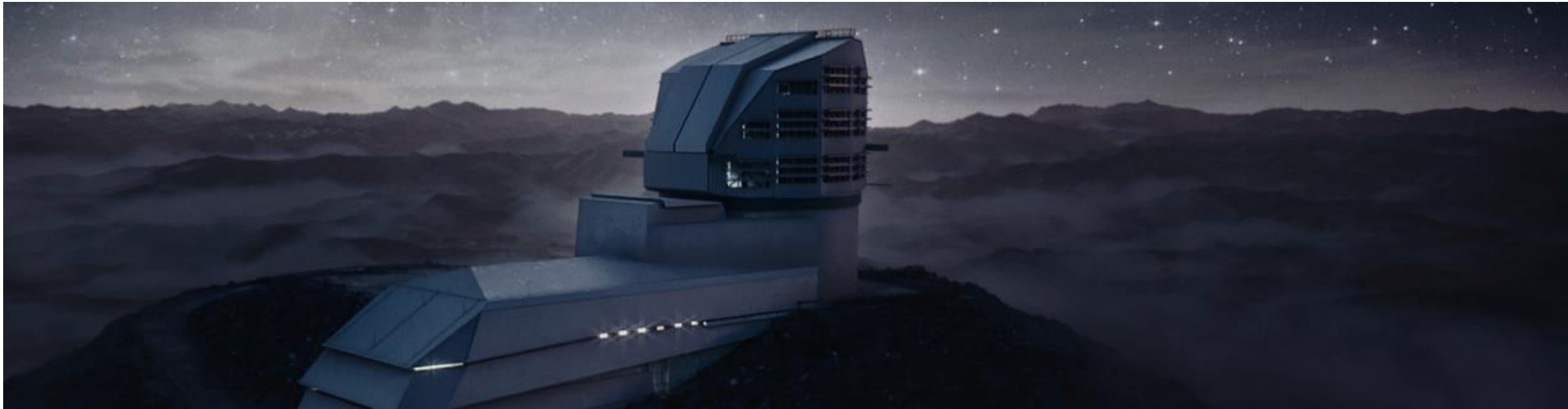
Vera Rubin Observatory: Legacy Survey of Space and Time - LSST

Cerro Pachon, Chile, 8,4-m telescope, FoV=9,6 sq. deg.

4 main scientific goals:

1. **dark matter and dark energy**
2. Solar System and asteroids
3. **transient optical sky**
4. Milky Way formation and structure

Vera C. Rubin
(1928-2016)



black holes - 1st symposium of the International Astronomical Union in Slovenia



Collaboration with the European Space Agency

2 Ariadna projects (2010, 2011)

Andrej Čadež (PI), Uroš Kostić (UL), Pacome Delva

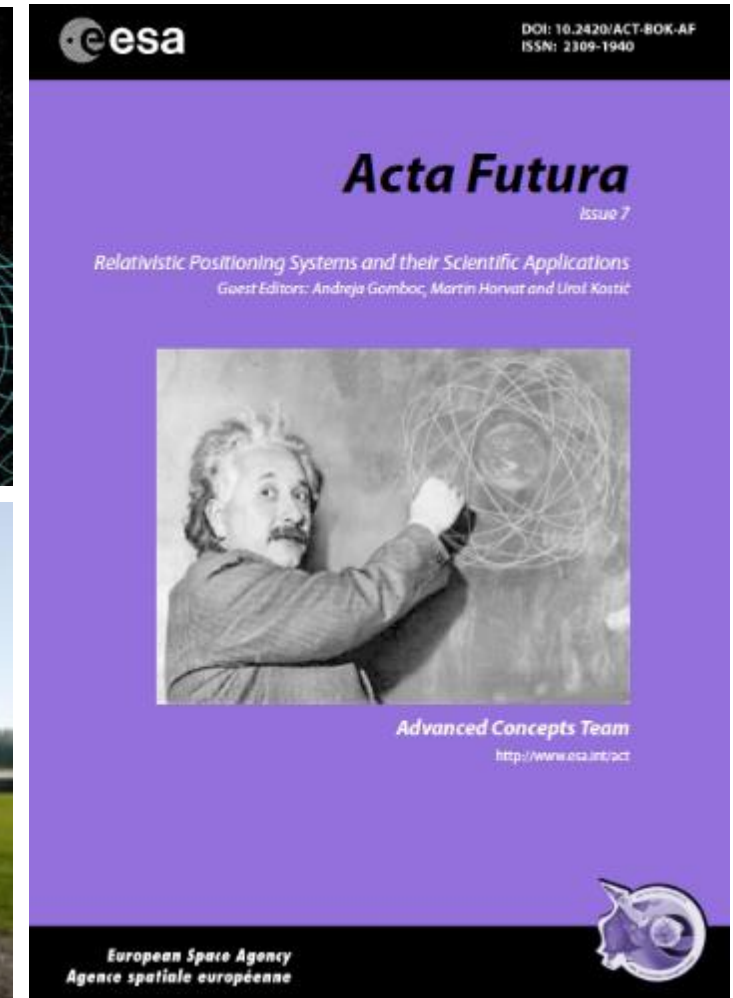
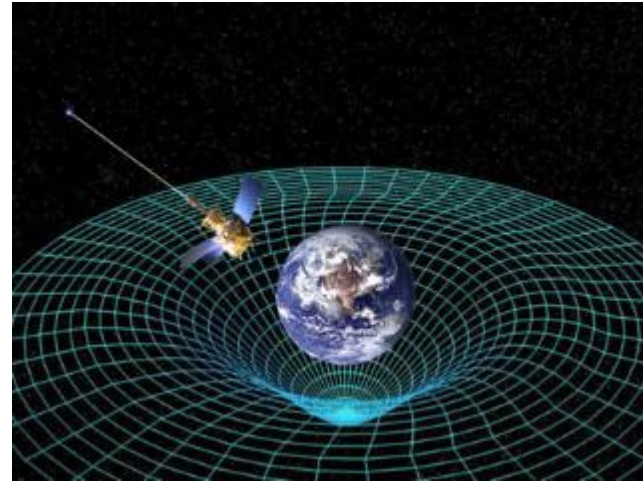
PECS project (2011-2014):

Relativistic Global Navigation Satellite System

Andreja Gomboc (PI), Uroš Kostić, Martin Horvat (UL)

Sep 2012: ESA workshop at Brdo:

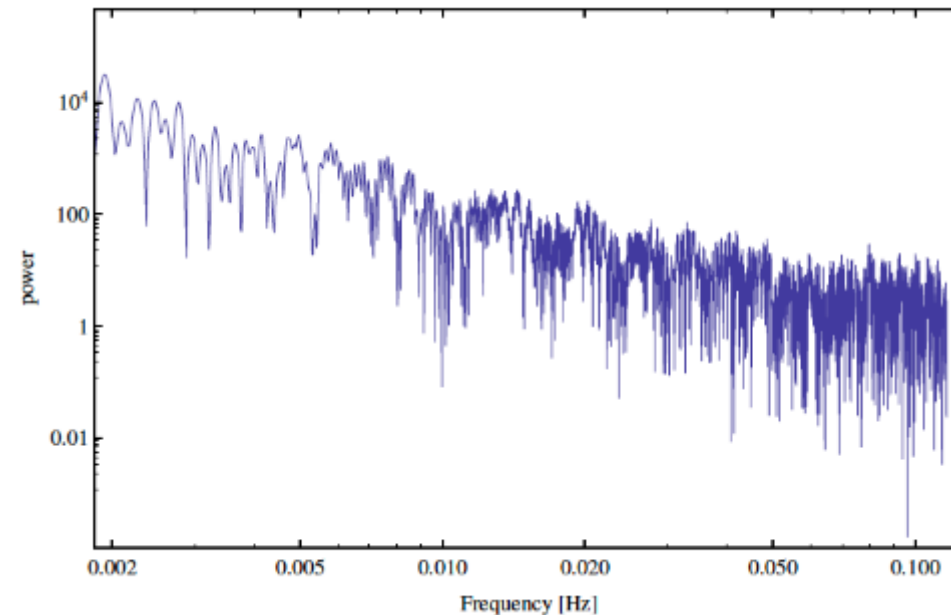
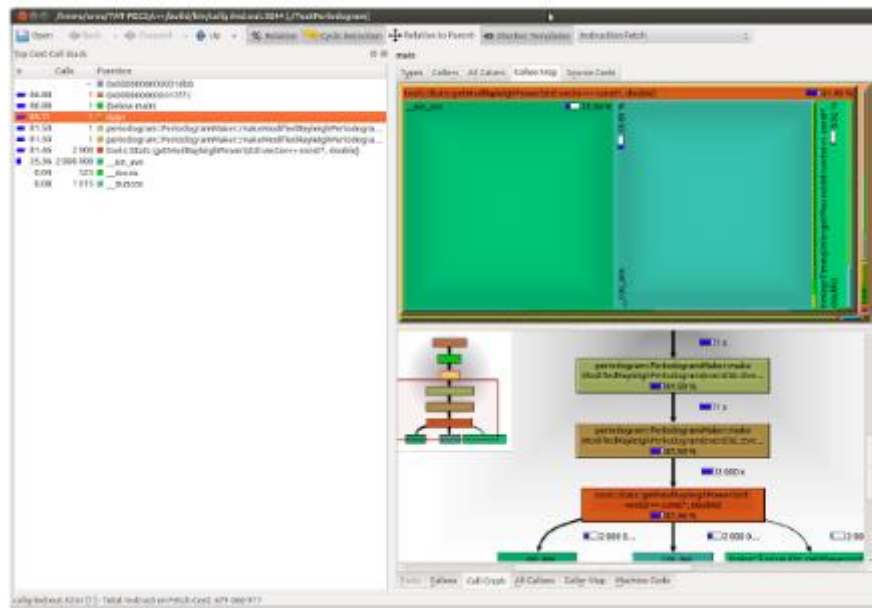
Relativistic Positioning Systems and their Scientific Applications



A Fast Tool for Timing Analysis of Transient Astrophysical Phenomena

PECS project (2012-2013)

Uroš Kostić (PI), Andreja Gomboc (UL)

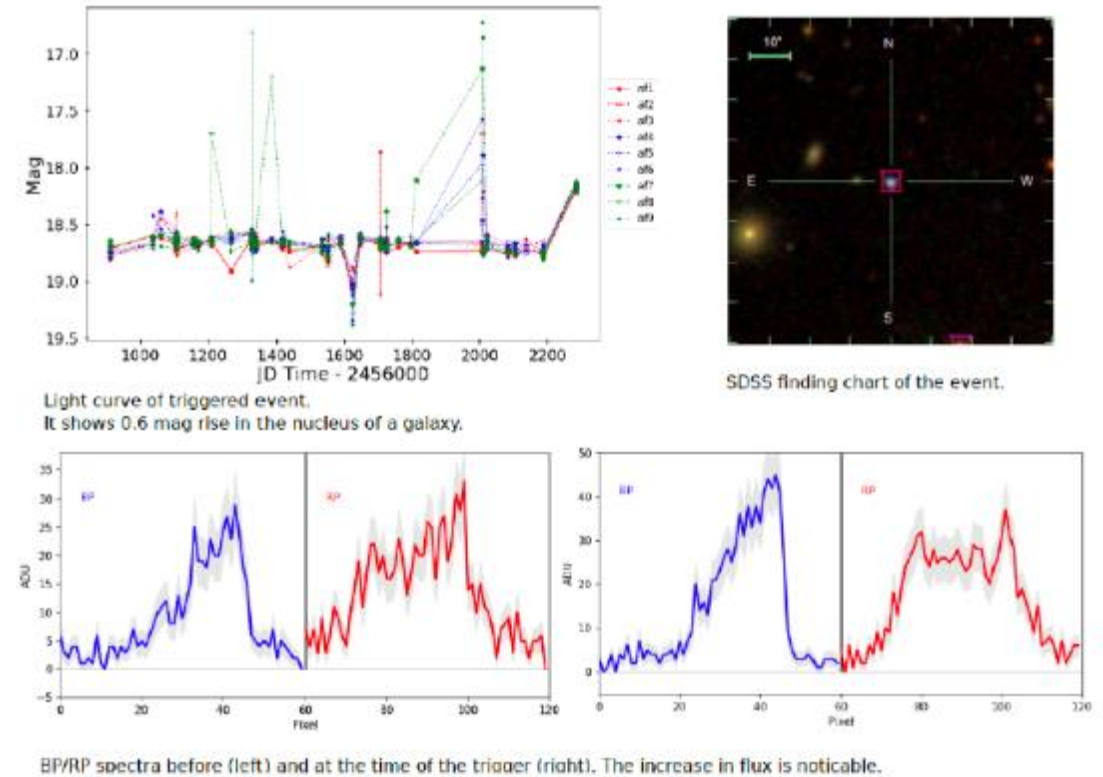


radial stellar velocities

- PECS project and PRODEX project : Tomaž Zwitter (PI), Maruša Žerjal (UL)

Gaia Transients:

- PRODEX project: Andreja Gomboc (PI), Nada Ihanec, Mitja Fridman (UNG)
- in collaboration with: Institute of Astronomy Cambridge, Warsaw University



Aalta Lab projects:



continuation of RGNSS projects:

RPS Experiment:

2020 – 2021

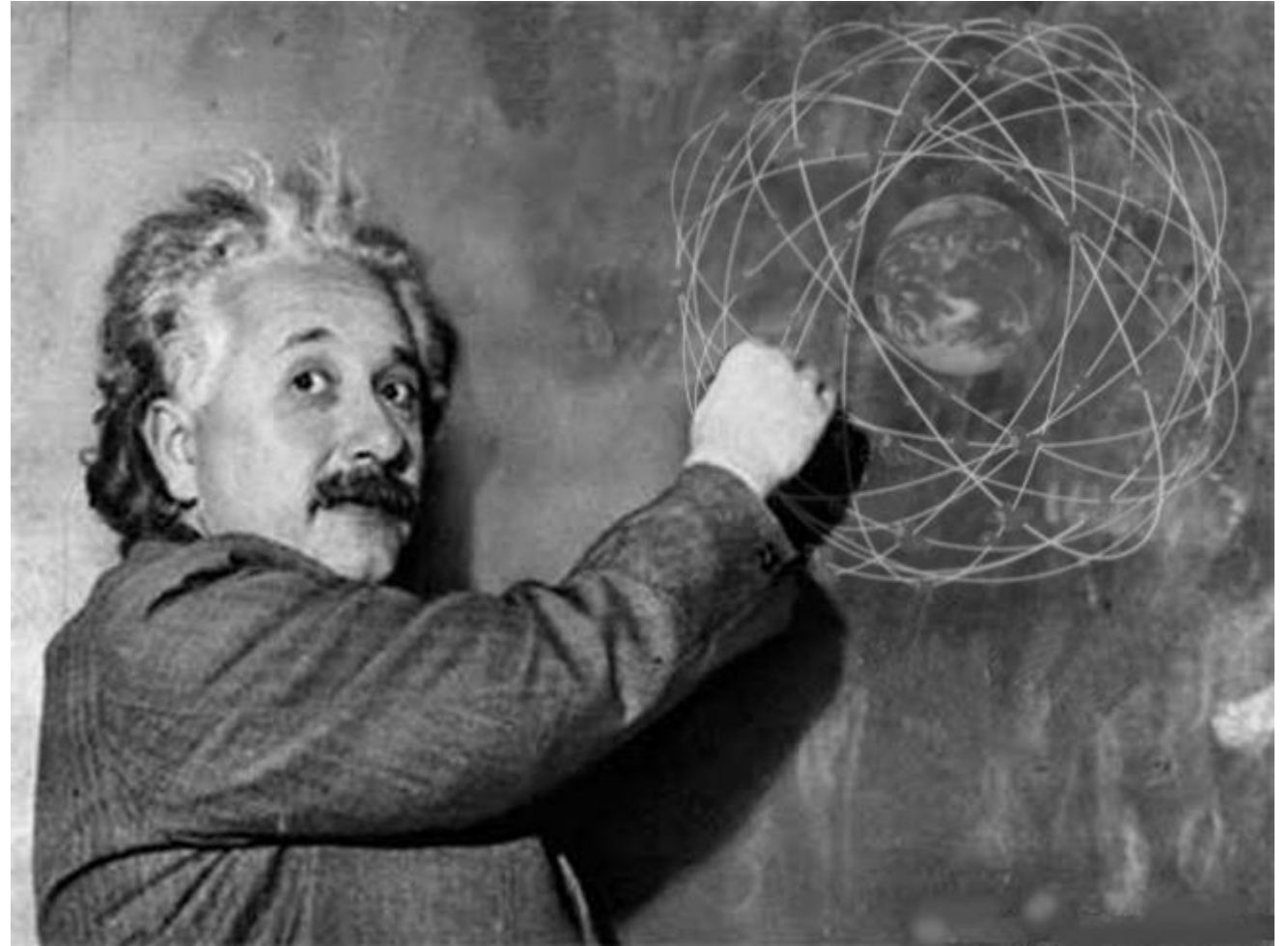
prime contractor: Aalta Lab

collaborators: UL, Paris Observatory

LIFELINE: 2020 – 2021

prime contractor: GMV

collaborator: Aalta Lab



Thank you!