



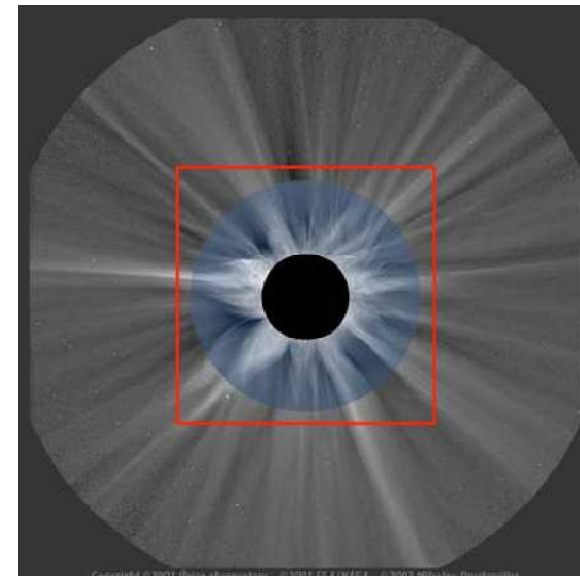
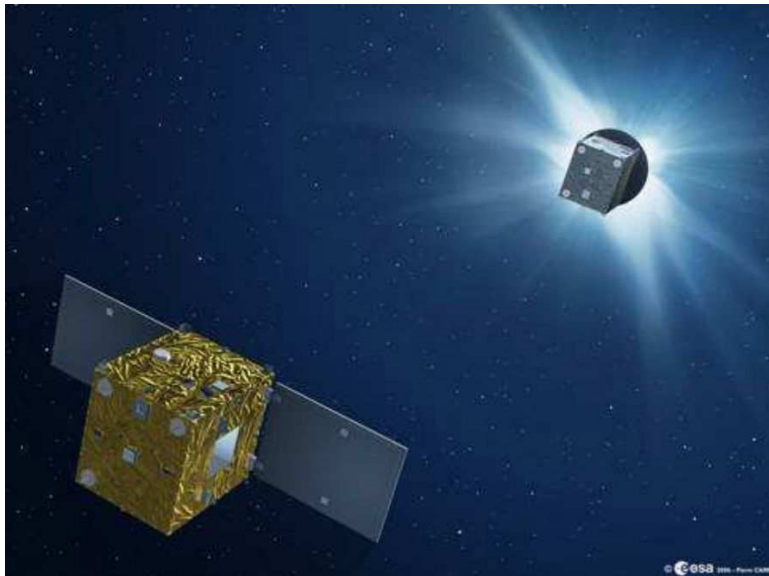
ESA PROBA-3 MISSION ASPIICS



Association de Satellites Pour l'Imagerie et l'Interférométrie de la Couronne Solaire

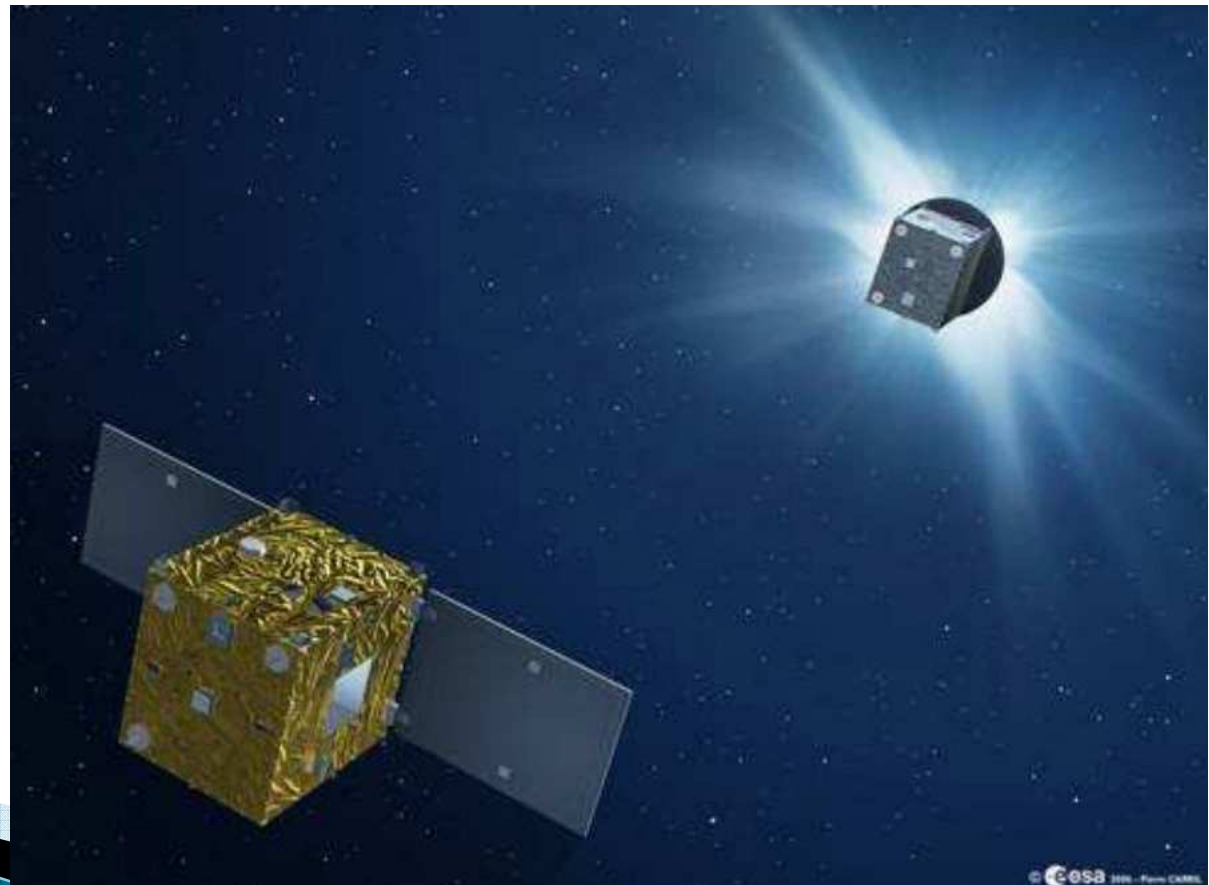
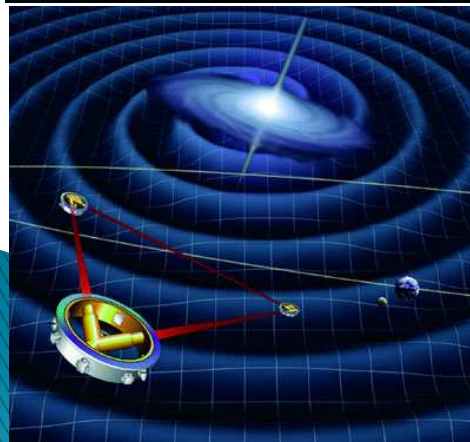
Hellenic Team: a collaboration of the Hellenic Research and Technology communities:

- ✓ Space sciences (Hellenic Universities, Observatory and Academy of Athens)
- ✓ The Digital Systems & Computer Architecture Laboratory (Un. of Athens/DIT)
- ✓ Industry (Hellenic Aerospace Industry, Satellite & Space Applications)



Formation Flying (FF) and the ASPIICS Coronagraph

FF is considered as the most promising approach to deploy the forthcoming generation of very large instruments in space. FF heralds a new era of coronal studies by allowing the deployment of giant coronagraphs in space capable of continuously observing the inner corona down to the solar limb under conditions of natural eclipses, a goal impossible with present space and ground-based instruments. ESA is taking a leading role in this technology and has proposed an ambitious program starting with the PROBA-3 demonstration mission and culminating with DARWIN, an interferometer aimed at the search of terrestrial exoplanets orbiting nearby stars within their habitable zone.





ATHENS, GREECE, 16-20 October 2006

SOLAR ORBITER WORKSHOP II

Topics:

Status of Solar Orbiter Mission and related activities

Properties, dynamics and interactions of plasma, fields and particles in the near-Sun heliosphere

Links between the solar surface, corona and inner heliosphere

Exploration, at all latitudes, of the energetics, dynamics and fine-scale structure of the Sun's magnetized atmosphere

Probing the solar dynamo by observing the Sun's high-latitude field, flows and seismic waves

Scientific Organizing Committee

- | | | |
|--------------------|-------------------------|-------------------------------|
| E. Marsch (D) | R. Marsden (ESA) | K. Tsinganos (GR) (co-chairs) |
| E. Antonucci (I) | R. Harrison (UK) | A. Nordlund (DK) |
| T. Appourchaux (F) | J.-F. Hochedez (B) | S. Solanki (D) |
| P. Bochsler (CH) | T. Horbury (UK) | A. Szabo (USA) |
| R. Bruno (I) | C. Keller (NL) | A. Vourlidas (USA) |
| M. Carlsson (N) | R. Lin (USA) | R. Wimmer-Schweingruber (D) |
| B. Fleck (ESA) | M. Maksimovic (F) | |
| L. Harra (UK) | V. Martinez-Pillet (ES) | |

Local Organizing Committee

- K. Tsinganos (Chair)
- I. Daglis
- E. Dara
- C. Gontikakis
- X. Moussas
- O. Malandraki
- S. Patsourakos
- M. Zoulias

Supported by:



Deadlines for:
early registration and abstract submission: 1 August 2006
hotel reservation : 1 July 2006

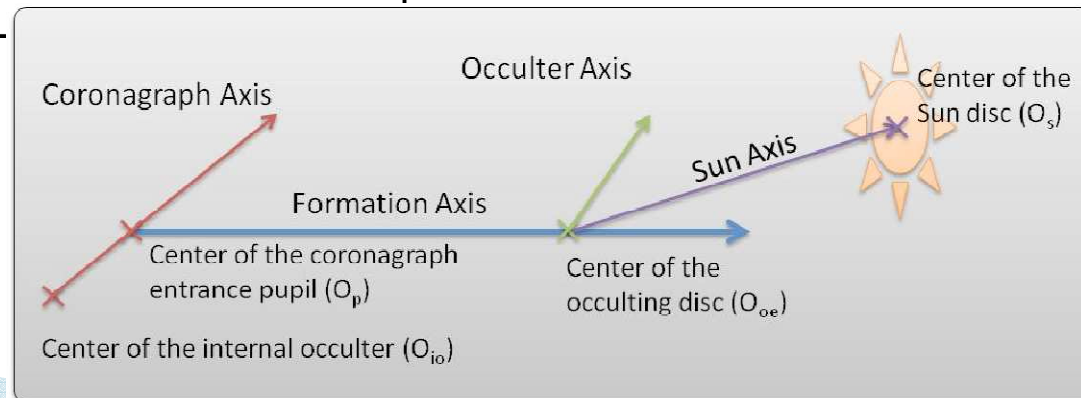
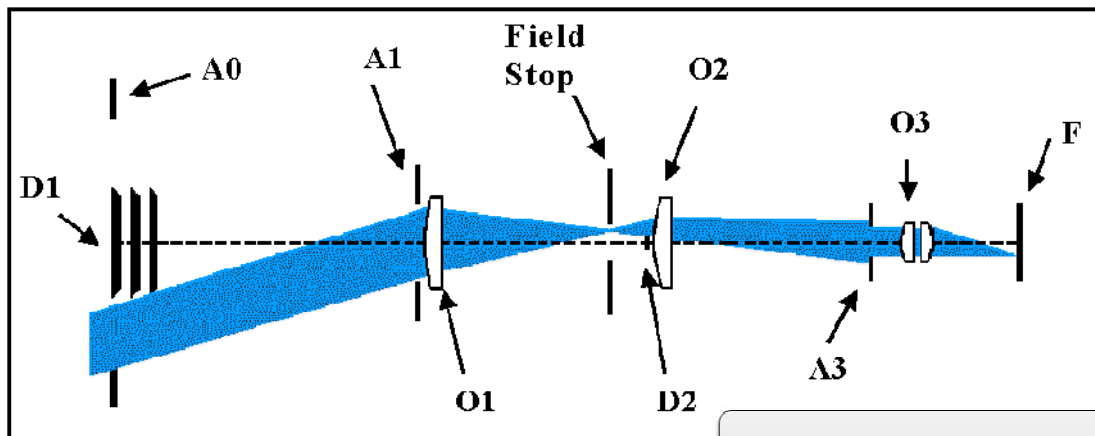
<http://conferences.phys.uoa.gr/solo2006/>

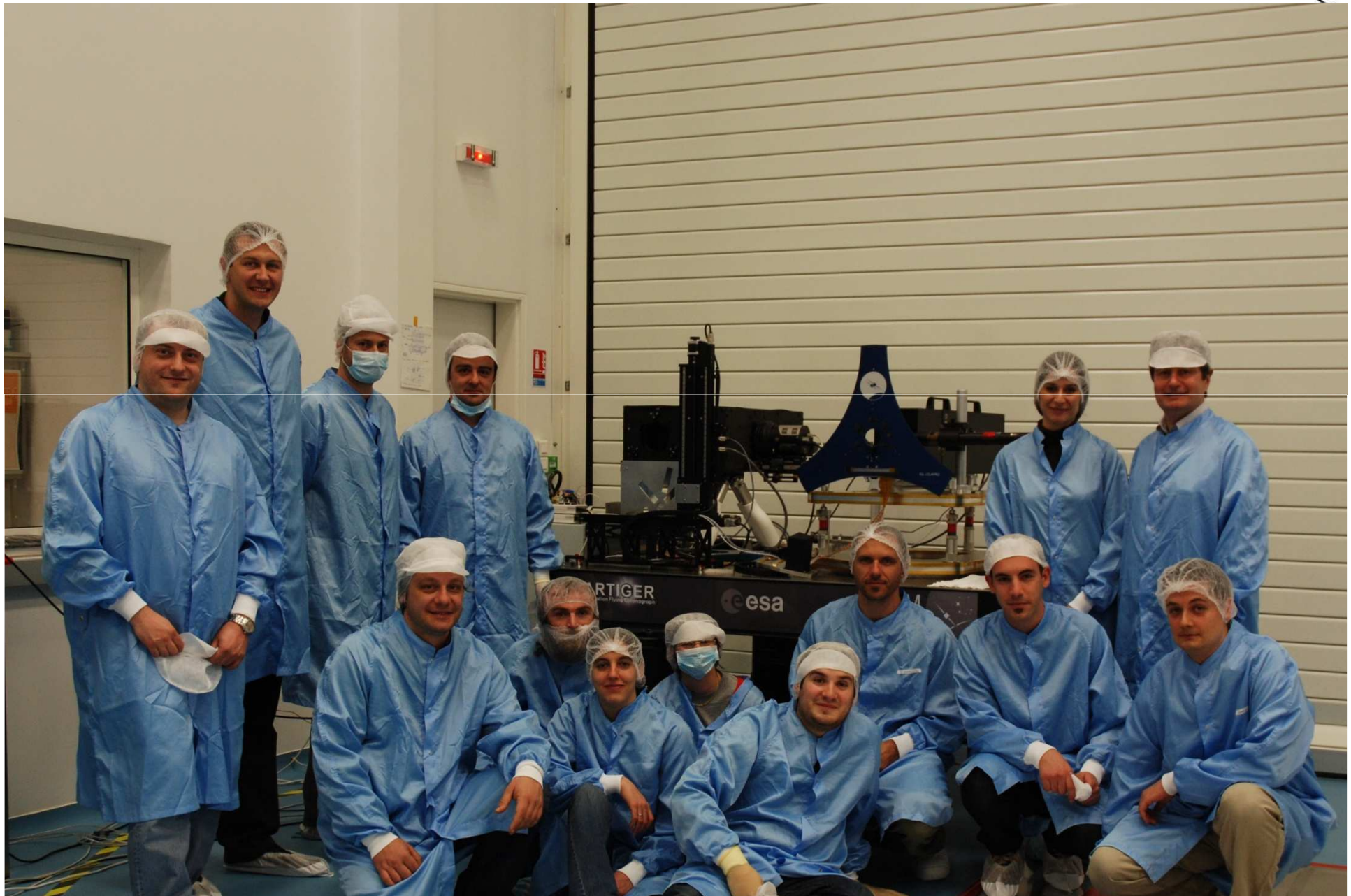


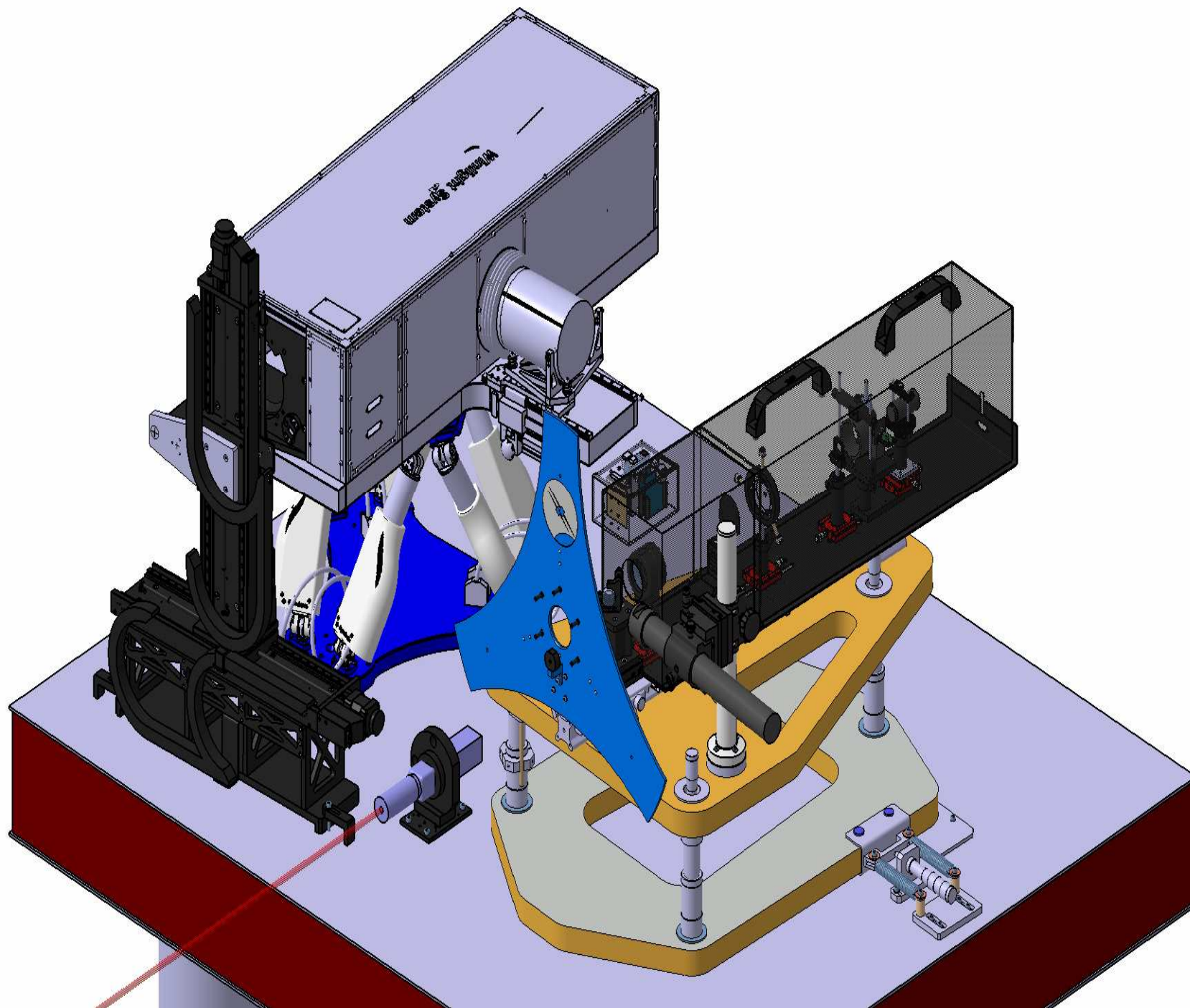
**DEMONSTRATION OF ASPIICS IN THE
LABORATORY BY A CORE TEAM WITH A
CENTRAL GREEK PARTICIPATION**

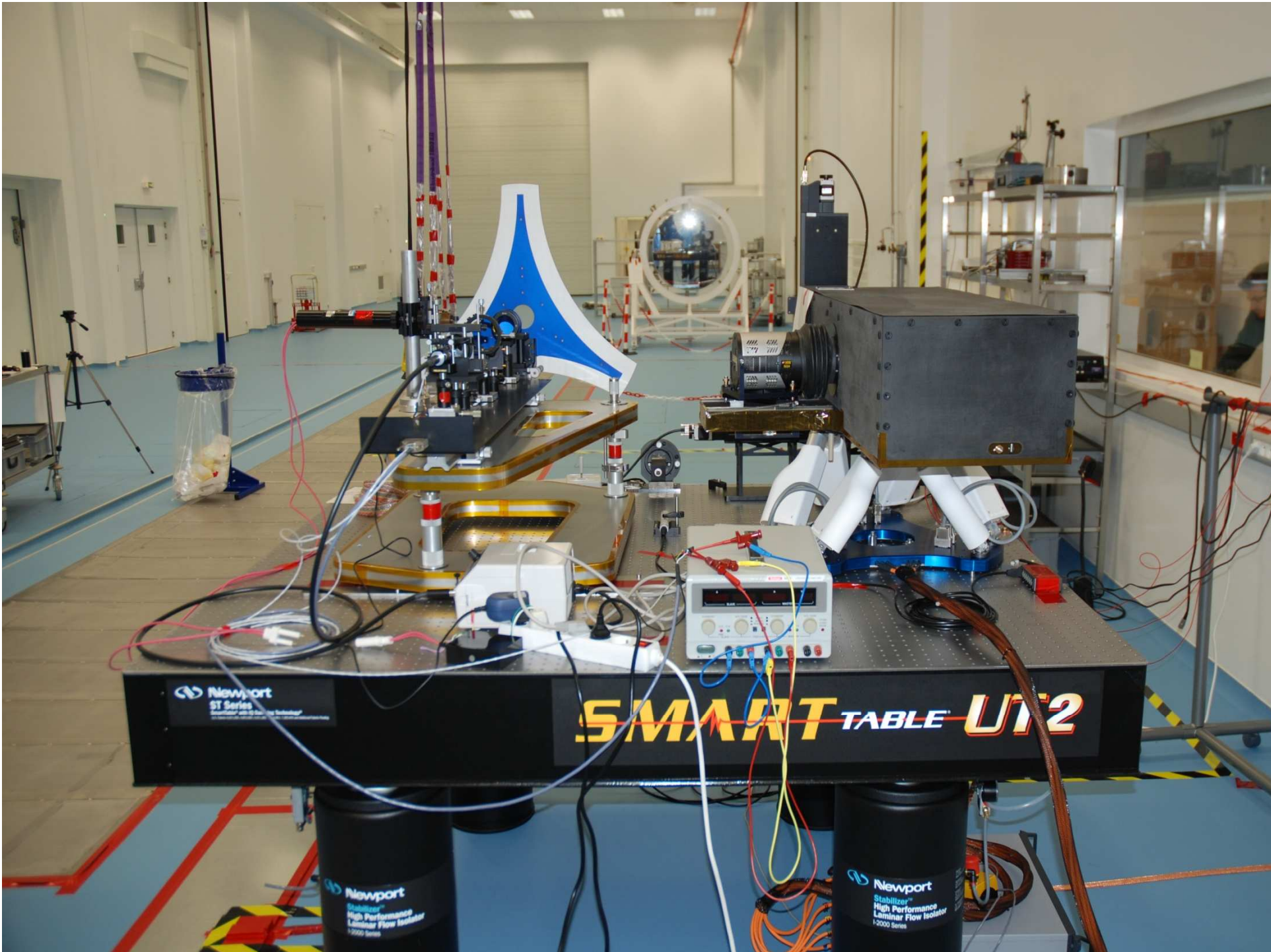
ESA Startiger program: a demonstration of the ASPIICS Coronagraph

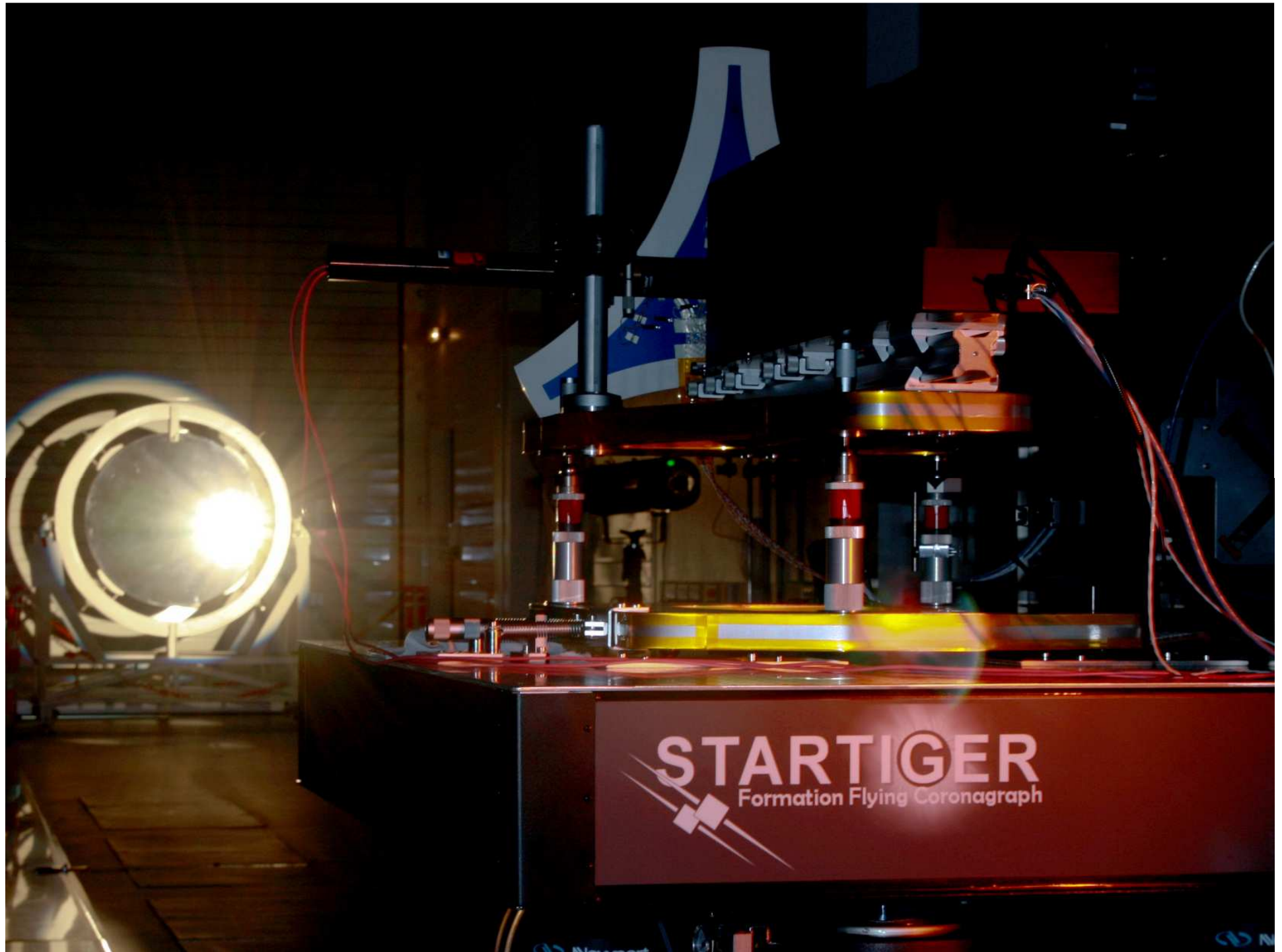
First stage of the proposed investigation was performed in the framework of the ESA STARTIGER program of technology demonstration by a consortium of scientific institutes and industrial partners, led by the Laboratoire d'Astrophysique de Marseille, the University of Athens, Centre Spatial de Liege, INAF-Osservatorio Astronomico Torino and the Rutherford Appleton Laboratory. Other participating organisations were the National Observatory of Athens, the LATMOS (Laboratoire Atmosphere, Milieux, Observations Spatiales) in France, the University of Padova and the University of Firenze.





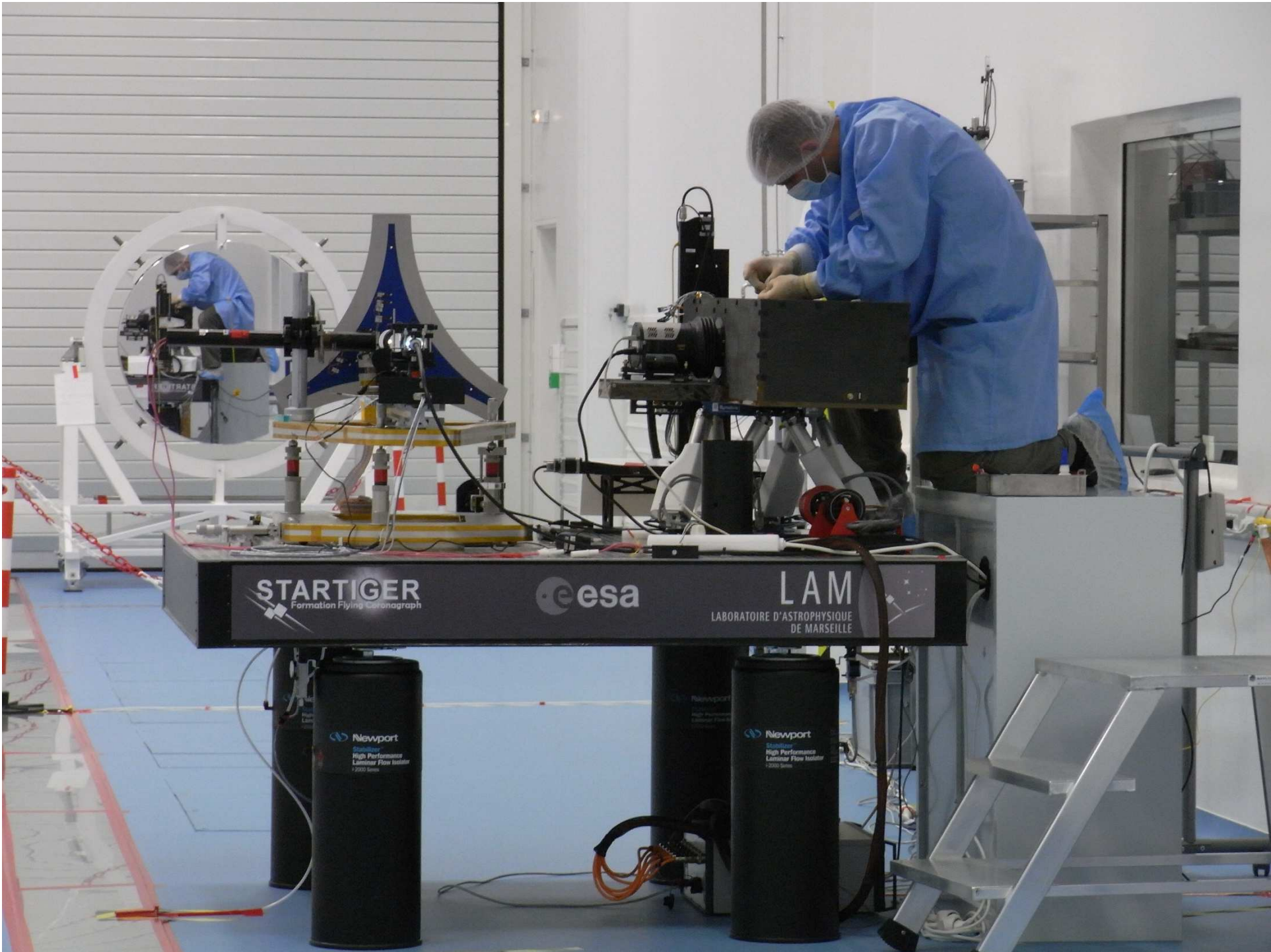




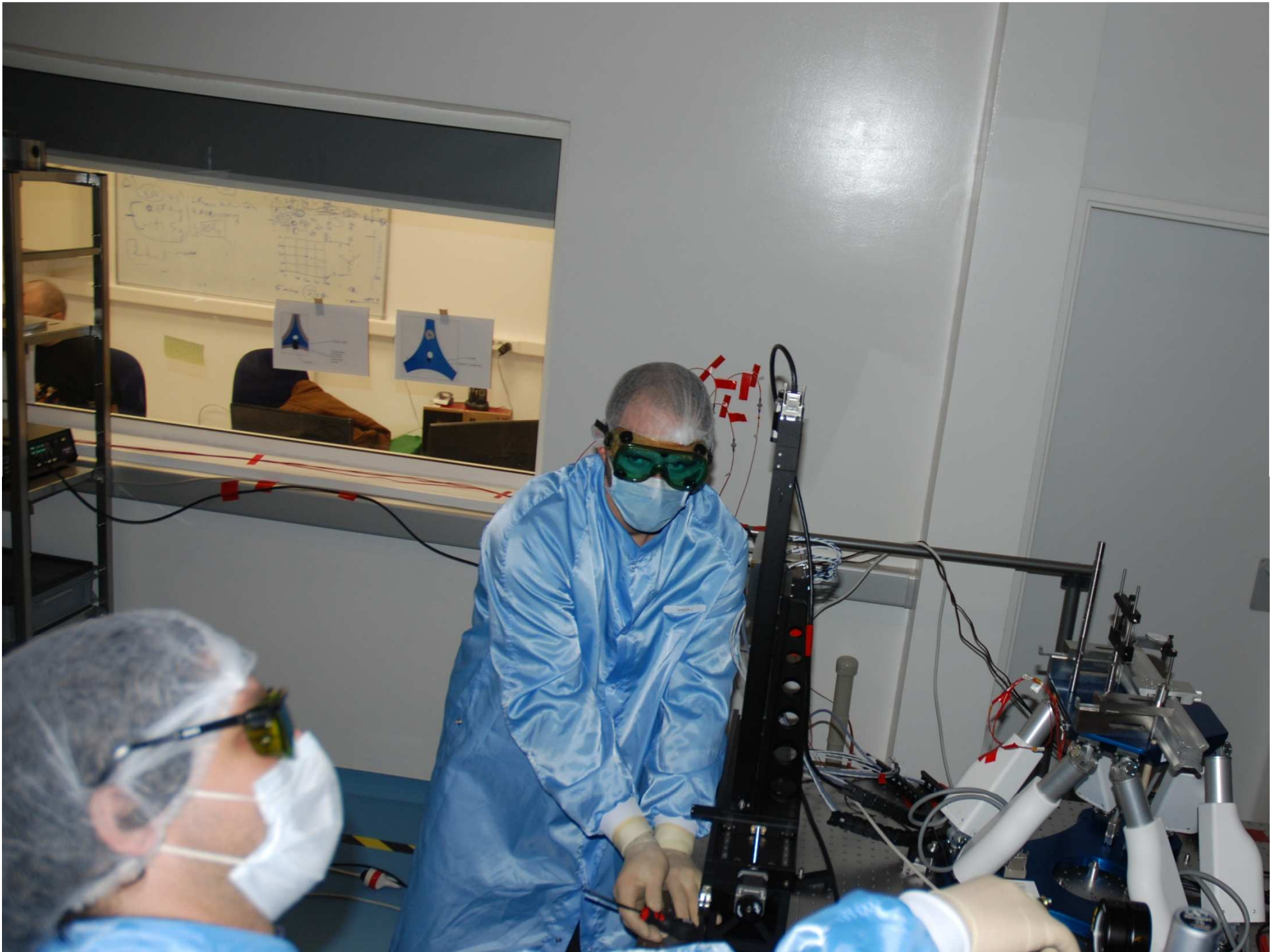














Partnership



Principal Investigator: **Philippe Lamy¹**

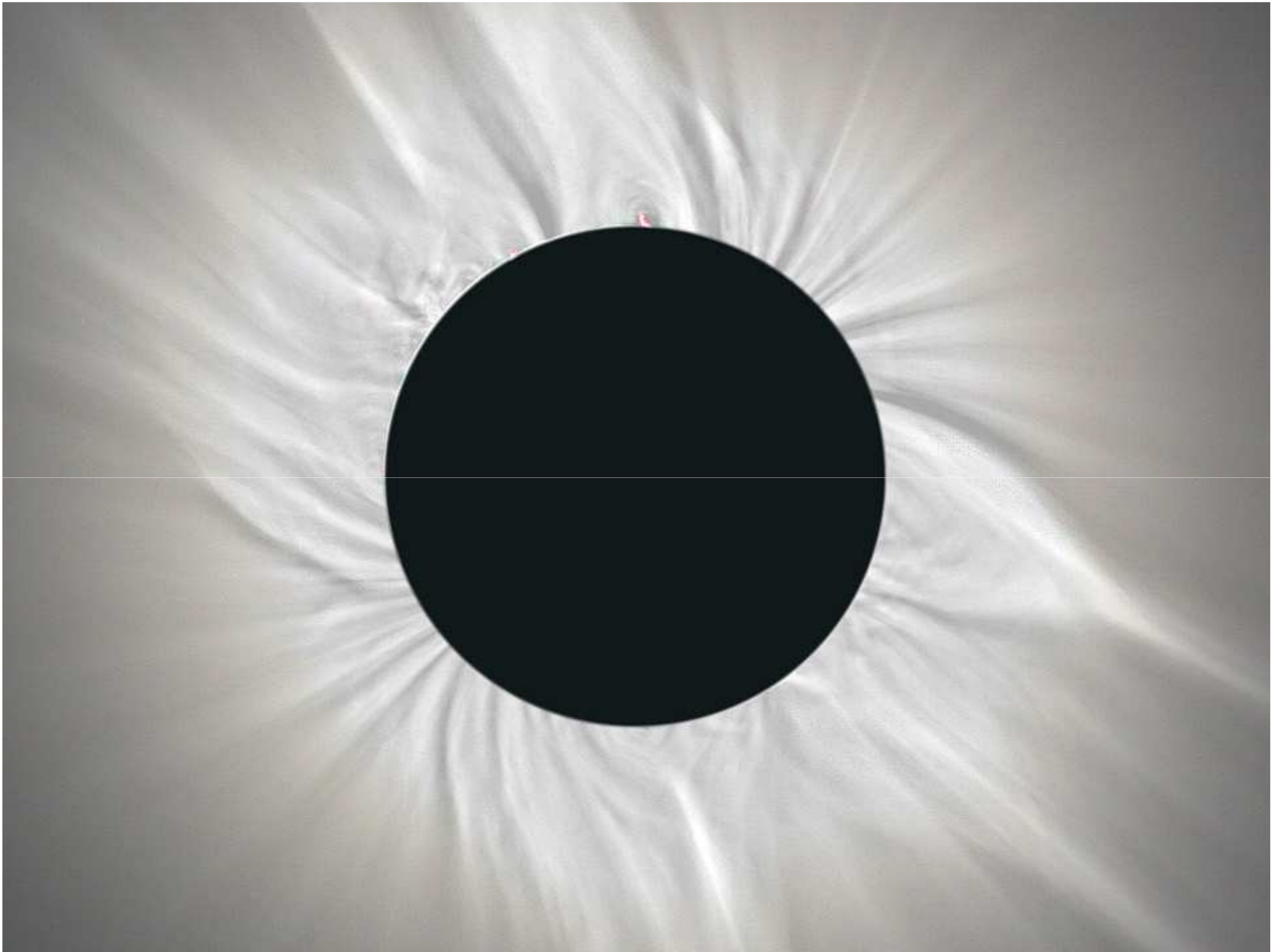
Co-Proposers: **W. Curdt², L. Damé³, J. Davila⁴, J.M. Defise⁵, S. Fineschi⁶, P. Heinzel⁷, R. Howard⁸, S. Kuzin⁹, W. Schmutz¹⁰, K. Tsinganos¹¹, S. Turck-Chièze¹², A. Zhukov¹³ and the Co-I's Team and the Associated Scientists Team**

- (1) Laboratoire d'Astrophysique de Marseille, **France**
- (12) Service d'Astrophysique, CEA, **France**
- (3) Laboratoire Atmosphères, Milieux, Observations Spatiales, **France**
- (2) Max-Planck-Institute für Sonnensystemforschung, **Germany**
- (11) University of Athens, **Greece**
- (6) INAF – Astronomical Observatory of Turin, **Italy**
- (5) Centre Spatial de Liège, **Belgium**
- (13) Royal Observatory of Belgium, **Belgium**
- (7) Astronomical Institute of the Acad. of Sciences, **Czech Republic**
- (10) Physikalisch Meteorologisches Observatorium Davos, World Radiation Center, **Switzerland**
- (4) Goddard Space Flight Center, **USA**
- (8) Naval Research Laboratory, **USA**
- (9) P.N. Lebedev Physics Institute, **Russia**

Objectives



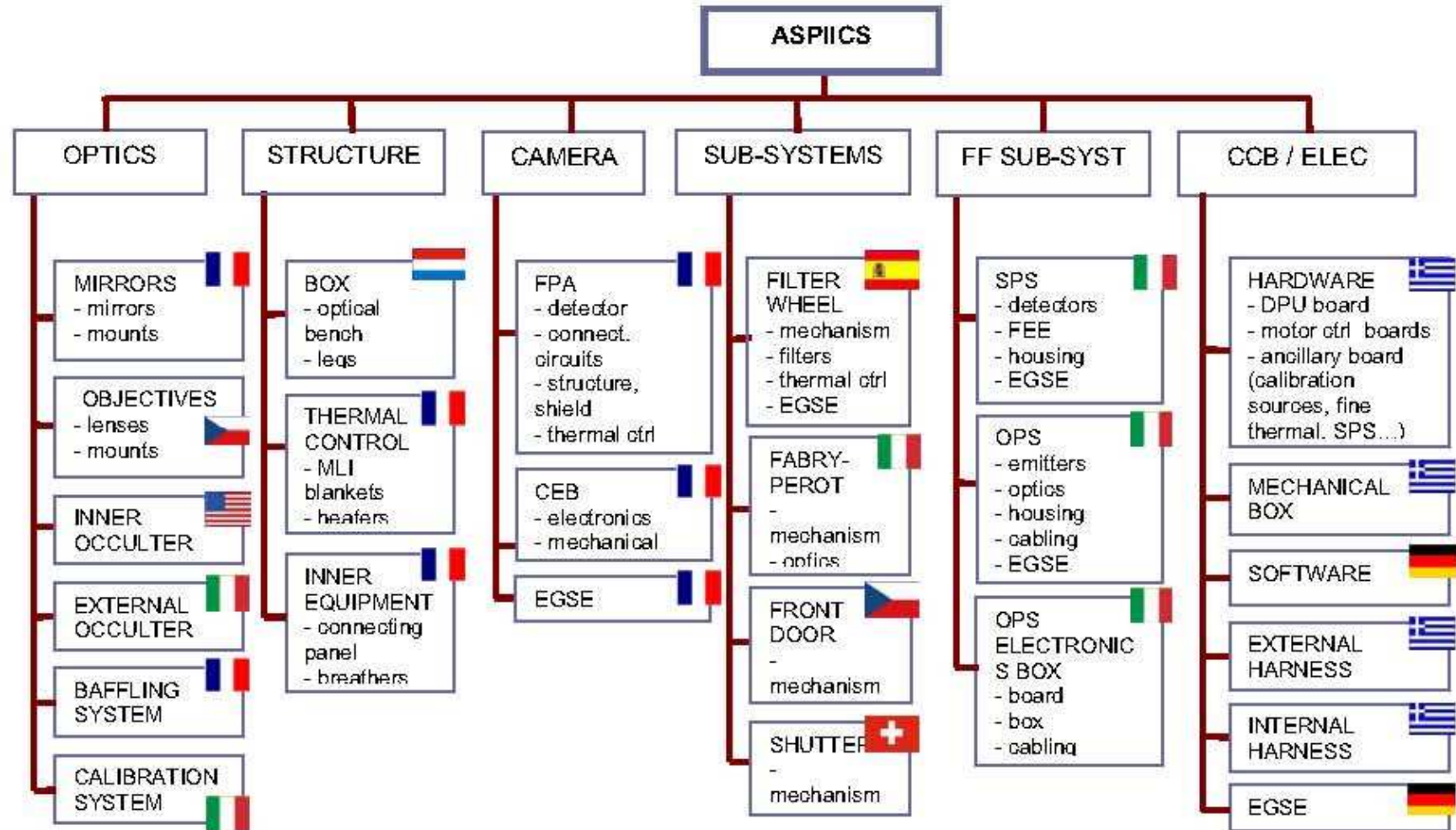
- ❑ ASPIICS : the next generation coronagraph for solar research, conceived to permanently reproduce the conditions of a **total eclipse of the Sun in space** ("artificial" eclipse) exploiting **formation flying** to gain access to the **inner corona** for long periods of time.
- ❑ ASPIICS : a giant step in our knowledge of the solar corona by providing observations that will help:
 - ❖ (a) **understanding key physical processes** in plasmas and
 - ❖ (b) **predicting space weather** in the Sun-Earth system.
- ❑ ASPIICS : capability to independently control the pointing and alignment of the two satellites and provide the initial and regular calibrations of the **formation control system** of the satellites



Highlights of the Greek ASPIICS participation:

- ❑ Participation in PROBA-3 is of the “right size” for the first Greek involvement in a space mission
- ❑ Since Greece joined ESA in 2005, this is the first central participation of the Greek space science and technology communities in the payload of an ESA mission.
- ❑ The Greek science team is composed of top space research groups of the country with an appropriate and experienced central management team:
 - Academician, prof. S. Krimigis (21 instruments in NASA/ESA since 1963), Head of Hellenic National Council of Science and Technology
 - prof. K. Tsinganos, ESA/SPC national delegate, vice-president of the Greek National Committee for Astronomy, former president of the Hellenic Astronomical Society,, former Member of the Hellenic National Council of Science and Technology.
 - prof. A. Paschalis, Director of Digital Systems & Computer Architecture Laboratory, Golden Core Member IEEE Computer Society
 - Dr. A. Poulakidas, Head of Section for Satellite and Space applications, Hellenic Aerospace Industry

ASPIICS Product Tree



Athens Organization Chart



ATHENS ORGANIZATION CHART

