Advanced Optics for Space Applications
Specific Seminar – Curriculum 3
2023, November 17, 11 a.m.

Speaker:

Prof. Roberto Ragazzoni, University of Padua – Department of Physics and Astronomy "Galileo Galilei"

Abstract:

Optical systems for space applications are subject to several constraints as they are required to withstand to the launch stress, and to achieve prescribed performances under various conditions as irradiance (with degradation of optical materials and coating depending upon the expected particles fluence), thermal cyclical stress (as in the case of low orbit) and in some cases even during accelerations (when mounted on spacecraft subject to manoeuvre during operations). I will revise some of the choices adopted in optical payloads adopted for astronomical instrumentation but pointing out similarities and differences expected in other kind of space applications like strategic imaging or optical communication. The adoption of non-conventional optical solutions, under some conditions, can become a relief for the harsh space conditions in spite of the common assumption that space devices are usually consolidated and well tested pieces of equipment.

Short Bio:

Roberto Ragazzoni is director of the Astronomical Observatory of Padova (2018-2023) and has been key actor in the optical development of the Wide-Angle Camera (WAC) onboard ROSETTA, the telescope used in CHEOPS and the ones that are going to be launched in PLATO. He collaborated on the HST as well as the HERSCHEL missions. He developed several wave front sensors and optical schemes for turbulence compensation using adaptive optics technique.

Online attendance:

https://meet.google.com/nyk-isju-tfd

Prof. Giovanni Pratesi
University of Florence – Department of Earth Sciences
g.pratesi@unifi.it

National PhD in Space Science and Technology - Secretariat
+39 0461 281504
dn_sst@unitn.it