

Event organized within the framework of the
Engineering Physics Colloquia



Ca' Foscari
University
of Venice
Department of
Molecular Sciences
and Nanosystems

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TU Berlin & German Aerospace Center

Time-Domain Spectroscopy in Space Research

23rd April 2026, 11.00

Conference Room Orio Zanetto, Alfa Building

The seminar will also be accessible remotely via the following link: <https://unive.zoom.us/j/87395173404>
Password: seminar1

Organized by
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The exploration of solar system bodies has been a focus of activities of space agencies around the world. The motivation ranges from gaining a better understanding of the geology of planets and moons to the search for traces of (former) life. The developed spectroscopic sensors range from passive infrared to VIS spectrometers employed, e.g., on orbiters, to active laser spectroscopies such as NIR spectroscopy, Raman spectroscopy, or Laser-Induced Breakdown Spectroscopy employed on

robotic missions. Space, weight, and power restrictions, as well as robustness against harsh environmental conditions, are inherent prerequisites for space missions and lead to specific design solutions for these instruments. In this talk, a brief overview is given, presenting the application and design of selected spectroscopic sensors employed in past missions. Thereafter, current efforts to explore the potential of time-domain spectroscopy techniques in space exploration are presented.