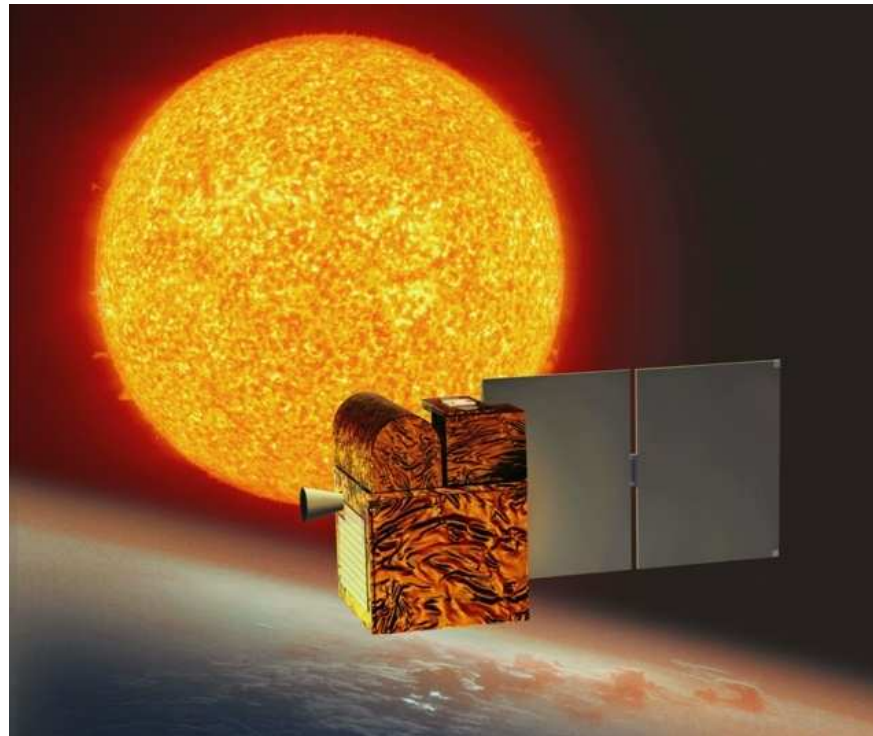


PICARD Mission overview

**Alain Hauchecorne, Gérard Thuillier (LATMOS)
and the PICARD Team**



Scientific objectives

Objectives:

- To reconstruct Total Solar Irradiance and Spectral Solar Irradiance
- To determine the Sun diameter and shape
- To Sound the internal structure of the sun by helioseismology

To determine if these parameters vary with solar activity

In order to:

- Improve the knowledge of the Sun physics
- Study the impact of solar activity on Earth climate

PICARD mission components

Space segment

- SODISM (LATMOS): Solar imager at 5 wavelengths (chromospheric: 215, 393 nm, continuum: 535, 607, 782 nm) measuring the solar diameter and shape and for solar physics and helioseismology
- SOVAP (IRMB-ORB): an absolute radiometer DIARAD and a bolometer BOS measuring the total solar irradiance and its high frequency variability
- PREMOS (PMOD/WRC): 2 radiometers and 3 filter radiometers measuring the total and spectral solar irradiance

Ground segment

- PICARD-sol (LATMOS-OCA): SODISM-2 installed at Calern to study the atmospheric impact on solar diameter and shape measurements from ground

Modelling activity

- Climate modelling: 3 groups involved in chemistry-climate modelling: LATMOS/IPSL, CANADA/CMAM and PMOD/WRC
- Solar modelling: 3 groups involved in solar modelling : Yale Université, CEA-Saclay and Davos/PMOD/WRC

PICARD Scientific Committee

Role		Institut	Solar physics	Helio-seismology	Climate	Atmosphere	Space weather
PI Mission	Alain Hauchecorne	LATMOS			X	Coordinator	
Co-PI Mission	Gérard Thuillier	LATMOS	Coordinator		X		
PI SODISM	Werner Schmutz	PMOD- WRC	X		X	X	X
PI SOVAP	Steven Dewitte	IRMB	X		X		
PI BOS	Michel van Ruymbeke	ORB	X				X
Project Scientist	Jean-François Hochedez	LATMOS	X				X
Co-I	Sylvaine Turck-Chièze	SAP/IRFU/CEA	X	X	X		
Co-I	Stella Melo	EC-CSA	X		Coordinator	X	X
Co-I	Sabatino Sofia	Yale	X				
Co-I	Patrick Boumier	IAS	X	Coordinator			
Co-I	Jean-Marie Malherbe	LESIA	X				Coordinator
Co-I	Thierry Corbard	OCA	X	X		X	

PICARD in the international context

Other solar missions in operations:

- Identify originality of PICARD measurements (wavelengths, time coverage, ...)
- synergy with other missions
- Cooperation to be developed

SOLSPEC/ISS: Solar Spectral Irradiance 170-3000 nm

SOHO

- GOLF: helioseismology
- MDI: Doppler Imager 676.8 nm Ni I line
- ViRGO: Total Spectral Irradiance

SDO HMI Imager 617.3 nm Fe I line

SORCE SIM: Solar Spectral Irradiance SIM
TIM: Total Spectral Irradiance
SOLSTICE: UV spectrum SOLSTICE

AIA Imager EUV, UV, continuum 450 nm