



université PARIS-SACLAY

## TARANIS

The TARANIS instrument (Tool for the Analysis of RAdiation from lightNIing and Sprites) is a CNES micro-satellite. The **objectives** of this mission are:

- » to study electric discharges in the atmosphere,
- » to study the mechanisms and conditions of stratospheric discharges,
- » to study the ionospheric response,
- » to study the impact on the chemical composition of the atmosphere and on the climate.

### Framework : CNES TARANIS micro-satellite

The Low Frequency Electrical Measuring Instrument (IME-BF) was developed by the LATMOS team, in collaboration with the Laboratory of Physics and Chemistry of the Environment and Space (LPC2E) and NASA. It is composed of:  
a double-sphere dipole type electric antenna (IME) (internal 0-3 MHz preamplifier)

a low-frequency analyser: electronic on-board processing of electrical (IME / LATMOS) and magnetic (IMM / LPC2E) data from 0 to 20 kHz and the ionic probe (SI / NASA).



## Scientific Contributions

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- » Scientific and instrumental specifications
- » Electric field and plasma measurement data processing algorithms / models for the TARANIS Mission Centre (CMT)
- » Modelling of the electrical loading of the satellite in the ionospheric plasma (R&T CNES)
- » Models of electro-magnetic wave propagation in the atmosphere-ionosphere-magnetosphere
- » One of the advantages of our project is the continuity of the work carried out by the IME-BF team over the past few years on previous projects, i.e. DEMETER / CNES and C-NOFS / NASA micro-satellites.

## OSU : OVSQ

Status: Observation Service approved by INSU/ASTRO (SO2)

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> [Website](#)