

TARANIS : a Project of Microsatellite for the Study of Sprites and Associated Emissions

E. Blanc

Commissariat Energie Atomique, Laboratoire de Detection et de Geophysique, F
elisabeth.blanc@cea.fr/Fax : 33 1 69 26 71 30

F. Lefevre

Laboratoire de Physique et Chimie de l'Environnement, CNRS, Université d'Orléans,
lefeuvre@cnrs-orleans.fr/fax 33 2 38631234

and the Taranis team

Taranis (**T**ool for the **A**nalysis of **R**adiations from light**N**ings and **S**prites) is a CNES microsatellite project. It proposes to measure sprites, halos, jets and elves and associated γ and X ray flashes, electromagnetic or electrostatic emissions, and energetic electrons at the nadir above thunderstorm. These complementary measurements will be carried on a local and global scale in order to understand the physical mechanisms responsible for the impulsive transfers of energy between the neutral atmosphere and plasmas of the ionosphere and magnetosphere. The purpose is to study the coupling between the low and middle atmosphere, the thermosphere, the ionosphere and the magnetosphere. The final goal is to determine the impact of these processes on the Earth's environment. This paper will present the scientific objectives, the mission, the scientific payload and the measurement concept of the sprites at the nadir used in the project.