

IDEE, The Electron Spectrometer of the Taranis Mission

J.-A. Sauvaud¹, A. Fedorov¹, P. Devoto¹, C. Jacquy¹, L. Prech², Z. Nemecek²

¹ CESR and CNRS-University of Toulouse, France

² Charles University, Prague, Czech republic

We present IDEE, the electron spectrometer for the polar orbiting, low altitude Taranis mission. It has two sensor planes made of silicon and CdTe and is designed to measure electrons in the energy range 70 keV to 4 MeV, to provide pitch angle information at medium energies. Several geometric factors can be used: A small geometrical factor in order to provide a survey of the radiation belts and of the South Atlantic Anomaly; a medium geometrical factor to allow the detailed study of Lightning induced Electron Precipitation (LEP) and a large geometrical factor in order to allow the detection of runaway electrons possibly associated with sprites and terrestrial gamma flashes. We present the detector design, simulations, electronics and the modes foreseen to measure electron burst onboard TARANIS.