

## **Co-ordinated observations of sprites**

Torsten Neubert, Danish National Space Center

Umran Inan, Robert A. Marshall, STAR Laboratory, Stanford University

Arthur Hughes, Andrew Collier, Space Physics Research Institute, University of Natal

Elisabeth Blanc, Thomas Farges, Commissariat à l'Énergie Atomique, France

Christos Haldoupis, Agnes Mika, University of Crete

Serge Soula, Oscar van der Velde, Université Paul Sabatier, Toulouse

Gabriella Satori, Jozsef Bor, Geodetic and Geophysical Research Institute, Hungary

During the northern hemisphere summer of 2003, from July 18 to September 18, a sprite observation campaign was conducted with coordinated measurements from Southern Europe and from the magnetically conjugate region in South Africa. The goal of the campaign was to investigate the effect of sprites on the atmosphere and ionosphere, and possible effects of the relativistic acceleration process manifested in the magnetically conjugate hemisphere. Measurements in Europe included optical video imaging from a remotely controlled, semi-automatic, camera system located at the Observatoire du Pic du Midi, in the Pyrenee mountains in Southern France, infra-sound observations, and ELF-HF electromagnetic observations. The observations in South Africa included kHz time-resolution measurements of optical emissions taken by an array of 6 photometers and VLF electromagnetic emissions. The campaign demonstrated the power of combining new instrumentation for co-ordinated measurements. The talk will give an overview of results and of plans for future co-ordinated ground campaigns organised under the World Sprite Watch Partnership.