

# **Use of Double Star (TC-1) Magnetic Field Measurements in Multi-Spacecraft Studies**

**E. Georgescu** (1), H.U. Auster (2), P. Brown (3), C.M. Carr (3), H.Eichelberger (4), K-H. Fornacon (2), J.Gloag (3) and T.L. Zhang (4)

(1) Max-Planck Institute for Extraterrestrial Physics, Garching, Germany

(2) Institute for Geology and Extraterrestrial Physics, Technical University Braunschweig, Germany

(3) Imperial College London, UK

(4) Space Research Institute, Austrian Academy of Sciences, Graz, Austria

On TC-1 (Tan Ce 1), the equatorial spacecraft of the Double Star mission, a strong spin-synchronized magnetic interference from the solar panels was observed. In-flight calibration techniques for spinning spacecraft that are based on minimizing spin tones in the spin aligned and spin-plane components and in the magnitude of the ambient magnetic field, are not applicable in this case. Due to the fortunate situation that the spacecraft carries 2 flux-gate magnetometers on the same boom ( at 0.5 m distance from each other), the spin frequency data could be recovered with less than 0.1 nT relative accuracy, by using the gradiometer technique. Methodology and results are presented. The obtained accuracy allows the use of the data in multi-spacecraft studies together with the Cluster satellites.