

Mercury Na exospheric emission related to solar disturbances.

S. Orsini (1), V. Mangano (1), **A. Milillo** (1), C. Plainaki (2), A. Mura (1), S. Massetti (1), J. Raines (3), E. De Angelis (1), R. Rispoli (1), F. Lazzarotto (1), A. Aronica (1)

(1) National Institute of Astrophysics/ Institute of Space Astrophysics and Planetology, Rome, Italy, (stefano.orsini@iaps.inaf.it) (2) Italian Space Agency, Rome, Italy, (3) Department of Atmospheric, Oceanic and Space Sciences, University of Michigan, Ann Arbor, USA

A first attempt to use Na exospheric emission at Mercury as a proxy of CME transit is presented, in a kind of planetary space weather. The link existing between the dayside exosphere Na pattern at Mercury and the solar wind-magnetosphere-surface interactions is investigated. This goal is pursued by analyzing the Na hourly average distributions, as observed by the ground-based THEMIS solar telescope during 10 selected periods between 2012 and 2013 (seeing $<2''$), when also data from MESSENGER were available. Very often a two-peak pattern of variable intensity is observed, symmetrically located at high latitudes in both hemispheres. Occasionally, the signal is instead diffused above the sub-solar region. We compare these different Na emission patterns with the time profiles of proton fluxes and magnetic field data, as measured in-situ by MESSENGER. Among these 10 cases, only in one occasion the Na signal is all the time diffused above the subsolar region, and only in this case the MESSENGER data indicate the occurrence of significant solar CME perturbations.