Geophysical Research Abstracts, Vol. 8, 05845, 2006
SRef-ID: 1607-7962/gra/EGU06-A-05845

Search for organics on Mars: the Gas-Chromatograph instrument in the SAM analytical laboratory, aboard MSL-09.

M. Cabane (1), P. Coll (2), C. Szopa (1), D. Coscia (2), P. Mahaffy (3) , and the SAM-GC/Sci Team.

(1) Service d'Aéronomie, SA/IPSL, Univ. ParisVI, T45-46 E4 B102, 4 Place Jussieu, 75005, Paris France, (2) LISA, Univ ParisXII, 94010, Paris France, (3) GSFC-NASA, Greenbelt, MD, 20771, USA ; (michel.cabane@aero.jussieu.fr)

In 2010, NASA's MSL09 rover will arrive at Mars to explore its surface and subsurface. Aboard this rover, the analytical laboratory SAM (Sample Analysis at Mars) will analyze samples from atmosphere and soil. In past times, life might have occurred in Martian conditions milder than the present ones, and left some remnants at the surface; even if this did not happen, one can search, at the surface of Mars, prebiotic molecules that might be similar to the ones that prevailed on Earth surface some billion years ago. One of SAM goals is the search for these organic molecules, and, for this purpose, a Gas Chromatograph coupled with a Mass Spectrometer (QMS) will be used ; other investigations will be proceeded using a Tunable Laser Spectrometer (TLS). We describe, here, the capabilities of the GC for the detection of organic complex molecules, either in Mars atmosphere, or in its soil.