



The French participation to SAM (Sample Analysis at Mars), aboard the 2009 Mars Science Lander.

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The SAM experiment (aboard NASA's Mars Science Laboratory rover) will examine for two years, from 2010 to 2012) the atmosphere and the soil of Mars, for a better understanding of their composition, especially looking for molecular abundances and isotopic ratios (organics, elemental analysis, noble gases). We describe, here, the SAM experiment (sample processing, quadrupole mass spectrometer, tunable laser spectrometer, gas chromatograph), and the interfaces between SAM and the MSL rover. In particular we describe the French contribution to SAM, that is a stand-alone Gas Chromatograph, which is especially dedicated to the study of organic molecules, either obtained from the atmosphere sampling or from the processing of soil samples.