

LIBS and acoustics correlated. Towards an improved strategy for rocks and minerals identification

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The SuperCam instrument of the NASA MARS 2020 rover combines a suite of atomic and molecular spectroscopies intended for an extensive description of rock, soils and minerals in the surroundings of the landing site of the mission – the Jezero crater. The microphone installed on the SuperCam allows the acquisition of acoustic signals resulting from the expansion of laser-induced plasmas towards the atmosphere. The acoustic signal has an additional component related to the surface and bulk properties of the target including hardness, deformation parameters, and elasticity, among others. This information is thought to be a valuable resource for characterization of the ablated material and may well complement the LIBS data gathered from coincident laser shots. This talk will present the information obtained from the SuperCam microphone of rocks and minerals and will discuss its correlation with LIBS spectra.