



## **Magnetic Measurements on Mars: What Is in Work and What Could Be**

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Mars, the red planet, has an iron-rich crust, an iron core like the Earth, and once had, we believe, an Earth-like, dynamo-driven magnetic field. It is therefore not surprising that the SNC meteorites and martian orbital surveys show that the crust of Mars is more magnetized than the crust of the Earth. The InSight mission is currently installing a magnetometer on the lander scheduled for launch and Mars landing in 2016. This investigation will enable us to determine the magnetic properties at one site and the fluctuating magnetic environment of the Mars surface. This could also assist us in electromagnetically sounding the interior of Mars.

The announcement of NASA's Mars 2020 rover opportunity could provide additional capability, that of traversing the surface. This capability would allow the measurement of the magnetization of blocks of material and, at least for local regions, the definition of their magnetic history. We expect that magnetic studies on the surface of Mars will provide as much insight into the geophysics of Mars as they have for Earth. In this paper we review the instrument being built for InSight and for future possible mobile landed missions.