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# Adjacent Martian lithospheric magnetized sources characterized by multi-altitude magnetic measurements

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A remanent lithospheric martian magnetic field was discovered and characterized during the Mars Global Surveyor (MGS) mission. These measurements give access to the magnetic properties of the martian crust. The configuration of the MGS mission, with measurements under 250 km, allows the local sources to be studied. Nevertheless, the poor lateral coverage of these data prevented low-altitude models from a good resolution. Here we investigate the benefit of multiple altitude (150, 190 and 230 km) and high lateral resolution (1 degree) magnetic measurements, in order to characterize adjacent sources. An inverse method is used with synthetic martian data. Two sources separated by 2 degrees will be better differenciated using the combination of the three datasets than using only one, even the lowest one. These preliminary results confirm the need for a mission with several low-altitude coverage of Mars, such as the Mars Escape and Magnetic Orbiter (MEMO) project.