



The in situ Solar Wind and Galactic Cosmic Ray correlation at Mars and its comparison with Earth observations

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The Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft have been observing the in situ solar wind properties since its arrival to Mars at the end of 2014. Together with the Galactic Cosmic Ray (GCR) observation continuously monitored by the Radiation Assessment Detector (RAD) on the Martian ground, we are able to analyze the correlation of the solar wind evolution and the modulated GCR variations at Mars. The transient variations (mostly observed as short-term decreases) in these in situ observations are usually related to either the impact of Coronal Mass Ejections (CMEs) erupted from Solar active regions or the pass-by of High Speed Streams (HSS) in the solar wind arising from Coronal Holes (CHs) on the Sun. During the opposition phase in 2016 when Earth and Mars were radially aligned on the same side of the Sun, we observe the stable evolution of a few CHs on the solar surface over several solar rotations and analyze the re-current in situ solar wind and GCR signatures at both Earth and Mars.