



A characterization of Mars surface layer

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The behaviour of the Martian Planetary Boundary Layer is one of the most unknown aspects of Mars. Up to now, only Viking, Pathfinder and MER missions have provided observational meteorological in situ data. Characteristic turbulent parameters such as Richardson number, Monin-Obukhov length, friction velocity, temperature surface layer scale or surface heat flux are calculated for different ranges of stabilities as well as other magnitudes such as drag and eddy diffusion coefficients, turbulent viscous dissipation rates or velocity variances. In order to obtain these parameters, Reynolds average equations, Monin-Obukhov similarity theory, first order turbulence closure (K-theory) and a 1D computational model have been used together with observational data provided by Viking and Pathfinder missions.

Some results are shown, pointing out analogies between scaling laws on both planets and some other differences related to the lower thermal inertia and density found on Mars.