



Mars surface layer characterization

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Turbulent parameters characterizing the Martian surface layer have been determined for Sol 25 of Pathfinder mission. This mission had a partial failure on the wind sensor, so up to now very little information about wind has been given. However, wind data covering Sol 25, when magnitudes were monitored with a frequency of 0.25 Hz the whole day, have been delivered by the University of New Mexico and kindly provided by Dr Jim Murphy. We have used this set of data together with in situ temperature and modelled ground temperature (1D PBL University of Helsinki model) to estimate Monin-Obukhov length, height of the convective boundary layer, friction velocity, convective velocity scale, surface heat flux, turbulent viscous dissipation rate and the eddy-transfer coefficients under different ranges of stability. Monin-Obukhov similarity theory has been applied and both universal functions and surface roughness length for length and temperature represent one of the biggest uncertainties. Many similarities concerning some turbulent parameters on both planets have been found while others directly related to the low atmospheric density and thermal inertia are different instead.