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Hydration of the Martian surface seen by OMEGA/MeX

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The surface of Mars presents an ubiquitous absorption in the 3 μm spectral region, caused by water molecules (structural water consituting the minerals and adsorbed water at their surface) and/or hydroxylation. We use OMEGA onboard Mars Express NIR imaging spectrometer to map the « water » weight content of the Martian surface and an energy balance code to predict the near surface relative humidity of the atmosphere. Results show a different behavior between the northern high latitudes and equatorial latitudes, reveal the potential influence of the subsurface ice table and allow us to quantify the exchanges between the regolith and the atmosphere.