

Joint analysis of the MOLA radiometry data and TES Lambert Albedo.
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We present analysis of the radiometric data received by the Mars Orbiter Laser Altimeter (MOLA) and its correlations with the Thermal Emission Spectrometer (TES) Lambert Albedo. Radiometry data is acquired along with the regular topography data. It is also possible to obtain radiometry data independently of the range measurement (Abshire et al.). MOLA measures reflected solar radiation from the Martian surface and atmosphere. MOLA as a radiometer operates at the wavelength of 1.064 micron with a bandwidth of 2 nm.

The preliminary analysis of radiometry data indicates that it is well calibrated and exhibits good correlation with surface albedo features and atmospheric phenomena (water ice clouds, dust storms). We present quantitative analysis of the MOLA radiometry data and its correlations with the TES Lambert Albedo measurement. The MGS Thermal Emission Spectrometer (Christensen et al.) has a bolometer which covers bandwidth from 0.3 to 3 micron and, hence covers significantly wider band than the MOLA radiometer.

We present the results of comparison of MOLA radiometry data with planet-wide TES albedo distribution during a clear season, when atmospheric scattering is minimized; comparison with the albedo derived from MOLA reflectivity; analysis of the data from the polar regions and analysis of the off-nadir data.

References.

- Abshire, J. A., et al, General description of the MOLA radiometry measurement, *ibid*, 2001
- Christensen, P. R., et al, Results from the Mars global surveyor thermal emission spectrometer, *Science*, 279(5357), pp. 1692-1698, 1998