Dust haze in Valles Marineris observed by HRSC and OMEGA on board Mars Express

A. Inada (1), M. Garcia-Comas (2), F. Altieri (3,4), K. Gwinner (5), G. Bellucci (3), N. M. Hoekzema (2), F. Poulet (6), H. U. Keller (2), W. J. Markiewicz (2), G. Neukum (7), J-P. Bibring (6) and HRSC and OMEGA Co-Investigator Teams

(1) Californai Institute of Technology, Pasadena, CA, USA, (2) Max-Planck-Institut fuer Sonensystemforshung, Katlenburg-Lindau, Germany, (3) IFSI-INAF, Rome, Italy, (4) Department of Physics, University of Lecce, Lecce , Italy, (5) Institute of Planetary Research, German Aerospace Center (DLR), Berlin, Germany, (6) IAU, Universite Paris 11, Orsay, France, (7) Institute of Geosciences, Freie Universitaet Berlin, Berlin, Germany

HRSC (The High Resolution Stereo Camera) and OMEGA (Observatoire pour la Minéralogie, l'Eau, les Glaces et l'Activité) on board Mars express (MEX) observed bright haze in the Valles Marineris on 25 May 2004 (the orbit number 438). Overlapped images acquired later display that it appeared thinner after three days and disappeared in nine days. We found that the composition is dust by analyzing OMEGA's spectrum. The haze is redder than the surface below. Its brightness temperature is colder than the expected temperature of the bottom of the valley without it. The stereo channels of HRSC provide the information of angular dependence. The brightness of the haze increases with the increase of emission angle, which indicates that the optical depth of the atmosphere was thick. We will show the optical depth derived from HRSC and OMEGA's data with a radiative transfer model.