

Phobos observations by OMEGA/Mars Express hyperspectral imager

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OMEGA on board the ESA MarsExpress mission, has acquired hyperspectral images of Phobos in the visible and near infrared range (0.35 to 5.1 μm) down to a distance of 96 km, corresponding to a footprint of 120m (table1).

Table 1: Omega observations list

orbit	Altitude (kms)	Footprint (m)	Phase angle ($^{\circ}$)
756_0	149	180	62.6
413_0	1882	2200	47.2
2747_0	1050	1200	95
2780_0	606	730	47.8
3769_3	776	900	65
3843_4	658	800	66
5851_2	96	120	50
7915_3	120	150	32
7926_3	287	350	40

We shall present an overview of results acquired, and discuss them in comparison to the pioneer observations of ISM and KRFM on board the Phobos 2 mission, and the recent CRISM/MRO ones (figures 1 and 2). The emphasis will be put on the search for spectral signatures of mafic minerals, hydrated and carbonaceous phases.

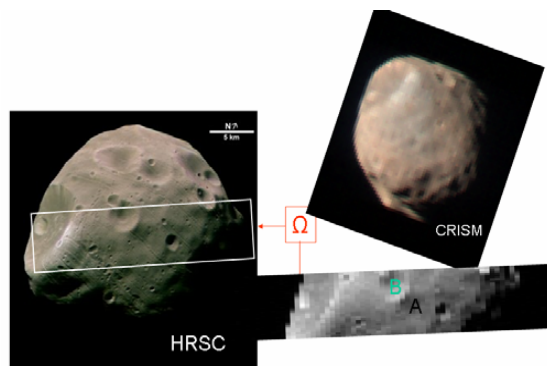


Figure 1: OMEGA and HRSC images acquired simultaneously, and CRISM image with similar viewing conditions.

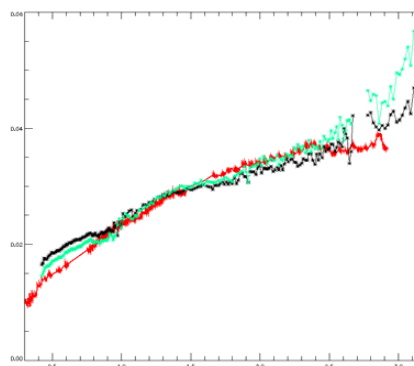


Figure 2: OMEGA spectra acquired in A and B locations (see figure 1) superimposed on the KRFM/ISM Phobos 2 spectra (red).

References

[1] Murchie, S. and Erard, S. *Icarus*, 123, 63–86, 1996.

[2] Rivkin, A. EPSC2009-723