

Simulating a MER Landing Site Remote Sensing Data Set for the 2002 FIDO Field Test

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To support the Field Integrated Design and Operations (FIDO) rover
 field test for Mars Exploration Rover (MER) science team training, we
 assembled a portfolio of modified terrestrial remote-sensing data to im-
 itate the datasets available for MER landing sites. The MER landing
 sites data we synthesized were:

- (i) Viking MDIM base images at around 200 m/pixel,
- (ii) interpolated 1/64th degree Mars Global Surveyor (MGS) Mars Or-
 bital Laser Altimeter (MOLA) topography,
- (iii) MOLA topographic profiles,
- (iv) some number of MGS Mars Orbiter Camera (MOC) high resolu-
 tion strips,
- (v) Mars Odyssey Thermal Emission Imaging Spectrometer (THEMIS)
 visible (VIS) and short-wave infrared (SWIR) reflectance images, and
- (vi) THEMIS thermal IR (TIR) emissivity images.

Terrestrial datasets selected and modified were (respectively):

- (i) Landsat TM composite images 90 m/pixel degraded to 180 m/pixel,
- (ii) USGS 90 m/pixel DEM degraded to 450 m/pixel,
- (iii) the same USGS 90 m/pixel DEM was individually sampled to gen-
 erate 100 m shot size MOLA profiles,
- (iv) USGS Digital Orthoquad 1 m/pixel aerial photographs, mosaiced,
 cropped and re-sampled to 1.5, 3, and 7 m/pixel,
- (v) ASTER VIS and SWIR Level 2 reflectance, and
- (vi) ASTER TIR emissivity images.

The MER Athena science team was able to successfully assess and eval-
 uate the scientific potential of their test "landing ellipse" using these
 data, suggesting that the team will be capable of similar interpretive
 extrapolation on Mars.

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