

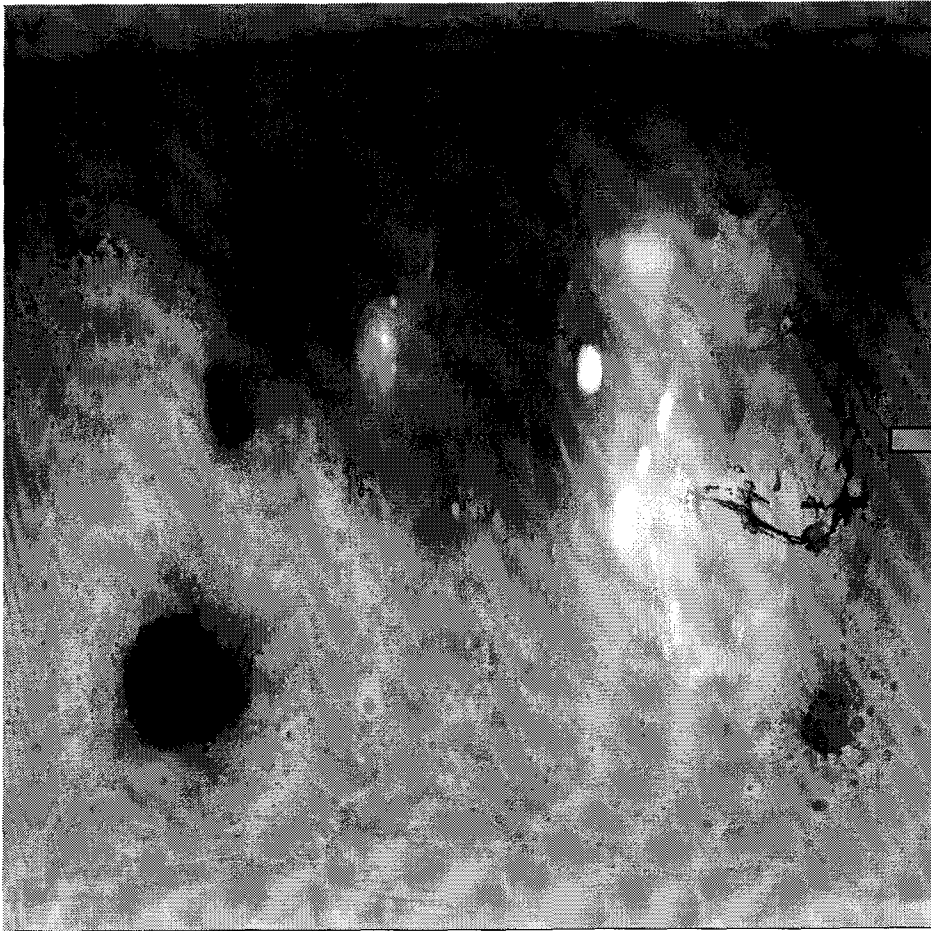
***MARS AND PHOBOS DTM's
for
PLANNING NEW MISSIONS***

by

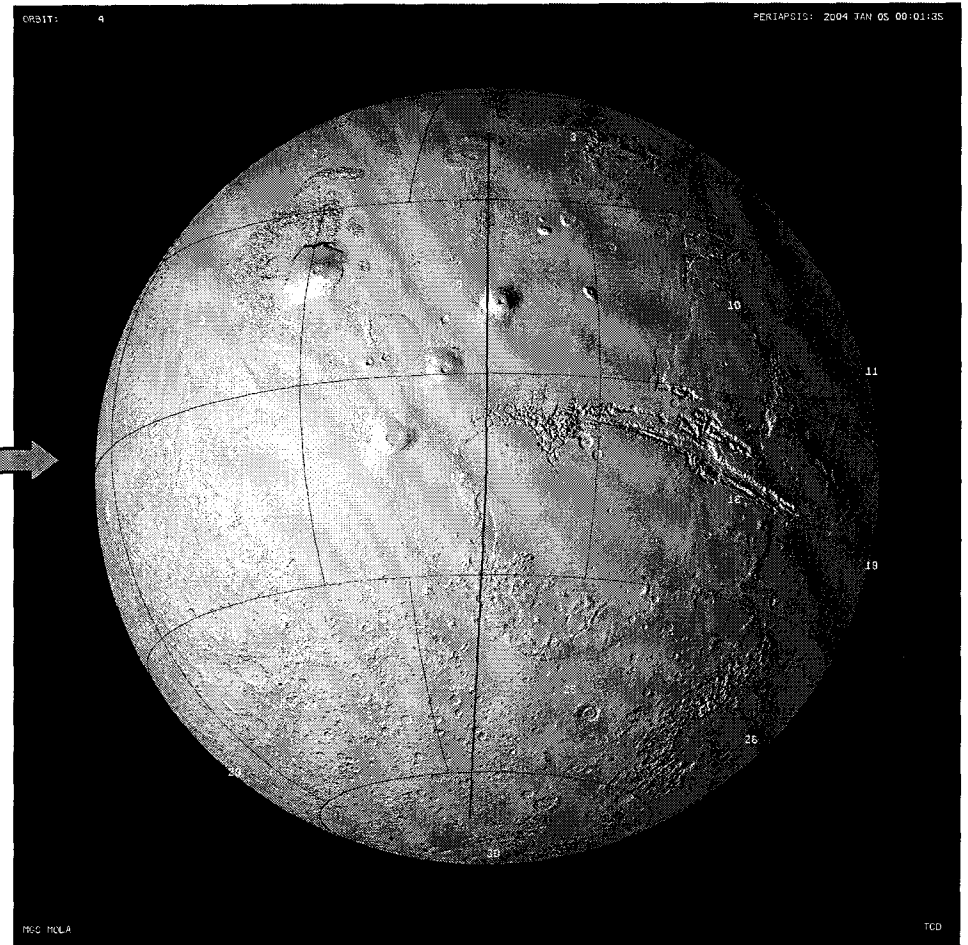
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***EGS General Assembly XXVI
Nice, France
24-29 April 2001***

MARS DTM AND DERIVED PERSPECTIVE VIEW



GLOBAL MOLA DTM



PERSPECTIVE VIEW

PERSPECTIVE VIEW LABEL RECORD

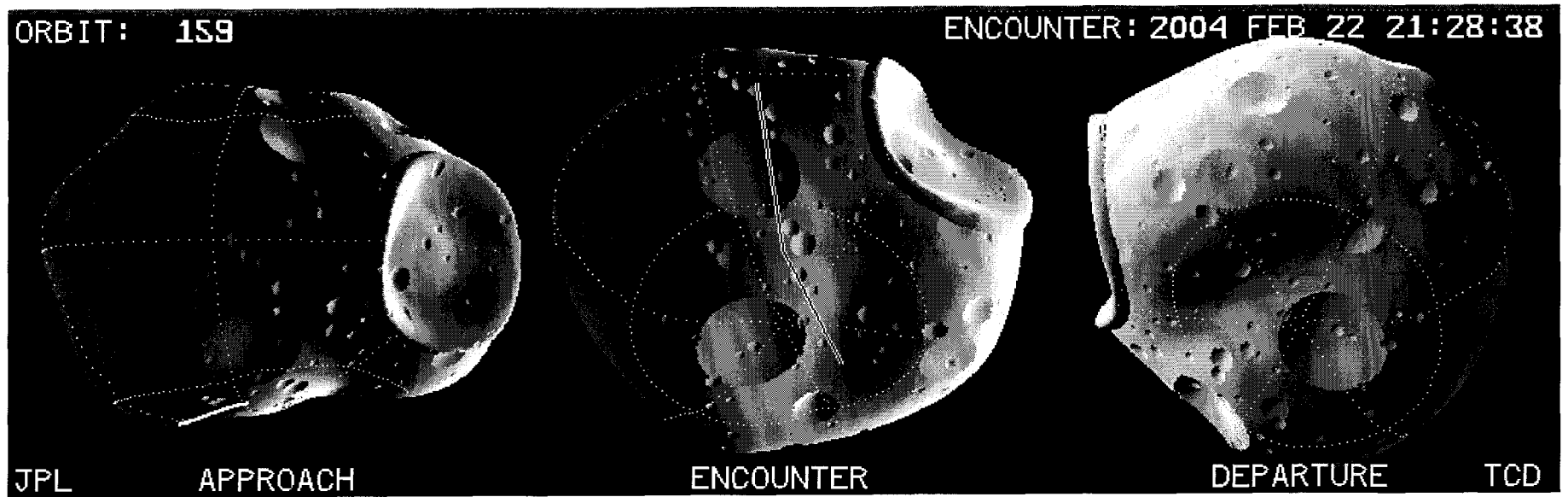
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PDS_VERSION_ID          = PDS3
/*          FILE FORMAT AND LENGTH */
RECORD_TYPE              = FIXED_LENGTH
RECORD_BYTES             = 2048
FILE_RECORDS             = 2051
LABEL_RECORDS           = 2
/*          POINTERS TO START RECORDS OF OBJECTS IN FILE */
^IMAGE_HISTOGRAM         = 3
^IMAGE                   = 4
/*          IMAGE DESCRIPTION */
DATA_SET_ID              = "MeX_MARS_MOLA_VIEW-V1.0"
FILE_NAME                = "MEX00004.IMG"
SPACECRAFT_NAME          = MARS_EXPRESS_ORBITER
TARGET_NAME              = MARS
SOFTWARE_NAME            = "mars_view(1.0)"
SOURCE_PRODUCT_ID       = { "MGS-MOLA-GLOBAL-DTM           ",
                           "MGS-MOLA-RS-GEOID_mgm0890i      ",
                           "MeX-SPICE-SPK                 ",
                           "IAU-1991                    " }

INSTRUMENT_NAME          = "N/A"
PRODUCT_CREATION_TIME    = 2000-11-10T14:52:28
PRODUCER_FULL_NAME       = "THOMAS.C.DUXBURY"
PRODUCER_INSTITUTION_NAME = "JET PROPULSION LABORATORY"
DESCRIPTION               = "Mars perspective views are
produced by illuminating the MOLA global DTM using the
viewing and and lighting geometry at each MeX periapsis and
also adding the MeX ground track for that orbit between +/-
60 deg orbital longitude."
PROJECTION_TYPE          = PERSPECTIVE VIEW
MAP_SCALE                = ~ 5 <KM/PIXEL>
COORDINATE_SYSTEM_NAME  = PLANETOCENTRIC
POSITIVE_LONGITUDE_DIRECTION = EAST
ORBIT_NUMBER             = 00004
PERIAPSIS_TIME           = 2004-JAN-05T00:01:35 <UTC>
S/C_LATITUDE@PERIAPSIS  = -15.1 <DEG>
S/C_LONGITUDE@PERIAPSIS = 253.1 <DEG>
S/C_ALTITUDE@PERIAPSIS  = 261.1 <KM>
S/C_RANGE@PERIAPSIS     = 3662.9 <KM>
SUN_LATITUDE@PERIAPSIS  = -13.0 <DEG>
SUN_LONGITUDE@PERIAPSIS = 215.0 <DEG>
MARS_RADIUS@PERIAPSIS   = 3401.8 <KM>
MARS_GEOID@PERIAPSIS    = 3395.8 <KM>
MARS_ELEVATION@PERIAPSIS = 6.0 <KM>
MARS_PHASE@PERIAPSIS    = 36.9 <DEG>
MARS_SEASON_L_s         = 327.9 <DEG>
S/C_LATITUDE@-60_DEG    = -77.1 <DEG>
S/C_LONGITUDE@-60_DEG   = 242.2 <DEG>
S/C_ALTITUDE@-60_DEG    = 1218.7 <KM>
S/C_LATITUDE@+60_DEG    = 47.2 <DEG>
S/C_LONGITUDE@+60_DEG   = 253.7 <DEG>
S/C_ALTITUDE@+60_DEG    = 1209.4 <KM>

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PHOBOS PERSPECTIVE VIEW



PHOBOS PERSPECTIVE VIEW LABEL RECORD

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PDS_VERSION_ID          = PDS3
/*      FILE FORMAT AND LENGTH */
RECORD_TYPE              = FIXED_LENGTH
RECORD_BYTES            = 1024
FILE_RECORDS             = 325
LABEL_RECORDS           = 3
/*      POINTERS TO START RECORDS OF OBJECTS IN FILE */
^IMAGE_HISTOGRAM         = 4
^IMAGE                   = 5
/*      IMAGE DESCRIPTION */
DATA_SET_ID              = "MeX_PHOBOS_VIEW-V1.0"
FILE_NAME                = "PHB00159.IMG"
SPACECRAFT_NAME          = MARS_EXPRESS_ORBITER
TARGET_NAME              = PHOBOS
SOFTWARE_NAME            = "phob_view(1.0)",
SOURCE_PRODUCT_ID        = { "Duxbury-VO-PHOBOS-DTM",
                             "mex_stat_001110.bsp",
                             "mar033-7.bsp",
                             "iaul991.tpc"
                           }

INSTRUMENT_NAME          = "N/A"
PRODUCT_CREATION_TIME    = 2000-11-22T18:10:31
PRODUCER_FULL_NAME       = "THOMAS.C.DUXBURY"
PRODUCER_INSTITUTION_NAME = "JET PROPULSION LABORATORY"
DESCRIPTION              = "Phobos perspective views are
produced by illuminating the Phobos DTM using the viewing and
lighting geometry at each MeX encounter of Phobos < 3000 km
and also adding the MeX ground track for that orbit when
within 3000 km."

PROJECTION_TYPE          = PERSPECTIVE VIEW
MAP_SCALE                = ~ 200 <M/PIXEL>
COORDINATE_SYSTEM_NAME   = PHOBO-OCENTRIC
POSITIVE_LONGITUDE_DIRECTION = EAST
ORBIT_NUMBER             = 00159
ENCOUNTER_TIME           = 2004-FEB-22T21:28:38 <UTC>
TIME_FROM_MARS_PERIAPSIS = -1:14 <H:M>
S/C_LATITUDE@ENCOUNTER   = -61.0 <DEG>
S/C_LONGITUDE@ENCOUNTER  = 261.5 <DEG>
S/C_RANGE@ENCOUNTER      = 1623.0 <KM>
SUN_LATITUDE@ENCOUNTER   = -2.3 <DEG>
SUN_LONGITUDE@ENCOUNTER  = 355.1 <DEG>
PHASE_ANGLE@ENCOUNTER    = 89.7 <DEG>
S/C_LATITUDE@APPROACH    = -3.9 <DEG>
S/C_LONGITUDE@APPROACH   = 253.9 <DEG>
S/C_RANGE@APPROACH       = 2930.0 <KM>
SUN_LATITUDE@APPROACH    = -2.3 <DEG>
SUN_LONGITUDE@APPROACH   = 6.0 <DEG>
PHASE_ANGLE@APPROACH     = 111.9 <DEG>
S/C_LATITUDE@DEPARTURE   = -60.6 <DEG>
S/C_LONGITUDE@DEPARTURE  = 33.8 <DEG>
S/C_RANGE@DEPARTURE      = 2927.0 <KM>
SUN_LATITUDE@DEPARTURE   = -2.3 <DEG>
SUN_LONGITUDE@DEPARTURE  = 344.5 <DEG>
PHASE_ANGLE@DEPARTURE    = 69.2 <KM>

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