

MARS GLOBAL SURVEYOR: ON THE WAY TO MARS

Frank D. Palluconi
Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California, USA
frank.d.palluconi@jpl.nasa.gov

Arden L. Albee
California Institute of Technology
Pasadena, California, USA
arden.albee@jpl.nasa.gov

ABSTRACT

The Mars Global Surveyor (MGS) spacecraft was launched toward Mars on 7 November 1996 and will arrive at Mars on 12 September 1997. This mission is the first in the extensive NASA Mars Surveyor Program and had a two year development period. In this report the status of the MGS mission, prior to entry into Mars orbit, will be described along with a description of the experiments to be conducted and the results expected. The Mars Global Surveyor mission is intended to accomplish a portion of the scientific objectives of the Mars Observer mission which was lost in 1993, three days before entering Mars orbit. To meet the established objectives a low, sun-synchronous, near circular, polar-mapping orbit is required which drives the need for aerobraking before mapping begins in March of 1998. MGS will carry a lander to orbiter relay capability for use with several small probes to be dropped to the surface of Mars by the 1998 Surveyor mission. The MGS mission is designed for one Mars year (687 days) of mapping operation at Mars and will overlap in time the 1998 Surveyor mission and the start of the Planet B mission providing the opportunity to conduct cooperative experiments with multiple landed and orbiting vehicles at Mars.