



Update and Status Of The 2013 *MAVEN* Mission To Mars



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MEPAG Meeting
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Summary Of Objectives And Status

MAVEN will help us to understand the role played by loss to space in evolution of the Martian atmosphere and volatiles, and to understand the nature of planetary habitability.

MAVEN Science Objectives:

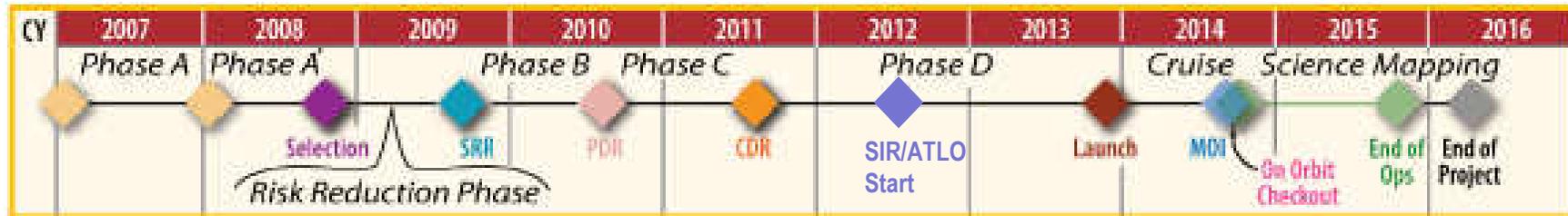
- Determine the structure and composition of the Martian upper atmosphere today (and the controlling processes)
- Determine rates of loss of gas to space today (and the controlling processes)
- Measure properties and processes that will allow us to determine the integrated loss to space through time

MAVEN Status:

- *On track, on schedule, on budget!*
- Spacecraft being integrated at Lockheed Martin in Colorado.
- Instruments to be delivered this fall and winter.
- Spacecraft-level testing in winter/spring, ship to Cape in August
- Launch period 18 November – 7 December, 2013



MAVEN Schedule



2 October 2012

MAVEN mission:

- One-Earth-year primary science mission
- Extended mission limited by fuel for orbit control and reaction wheel desats
- Best-case scenario – fuel for additional eight years



The MAVEN Science Instruments

(All Pictures Are Flight Hardware)

Mass Spectrometry Instrument



Neutral Gas and Ion Mass Spectrometer; Paul Mahaffy, GSFC

Particles and Fields Package



Solar Energetic Particles; Davin Larson, SSL

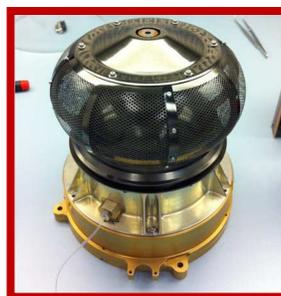


SupraThermal and Thermal Ion Composition; Jim McFadden, SSL

Remote-Sensing Package



Imaging Ultraviolet Spectrometer; Nick Schneider, LASP



Solar Wind Electron Analyzer; David Mitchell, SSL



Solar Wind Ion Analyzer; Jasper Halekas, SSL



Langmuir Probe and Waves; Bob Ergun, LASP

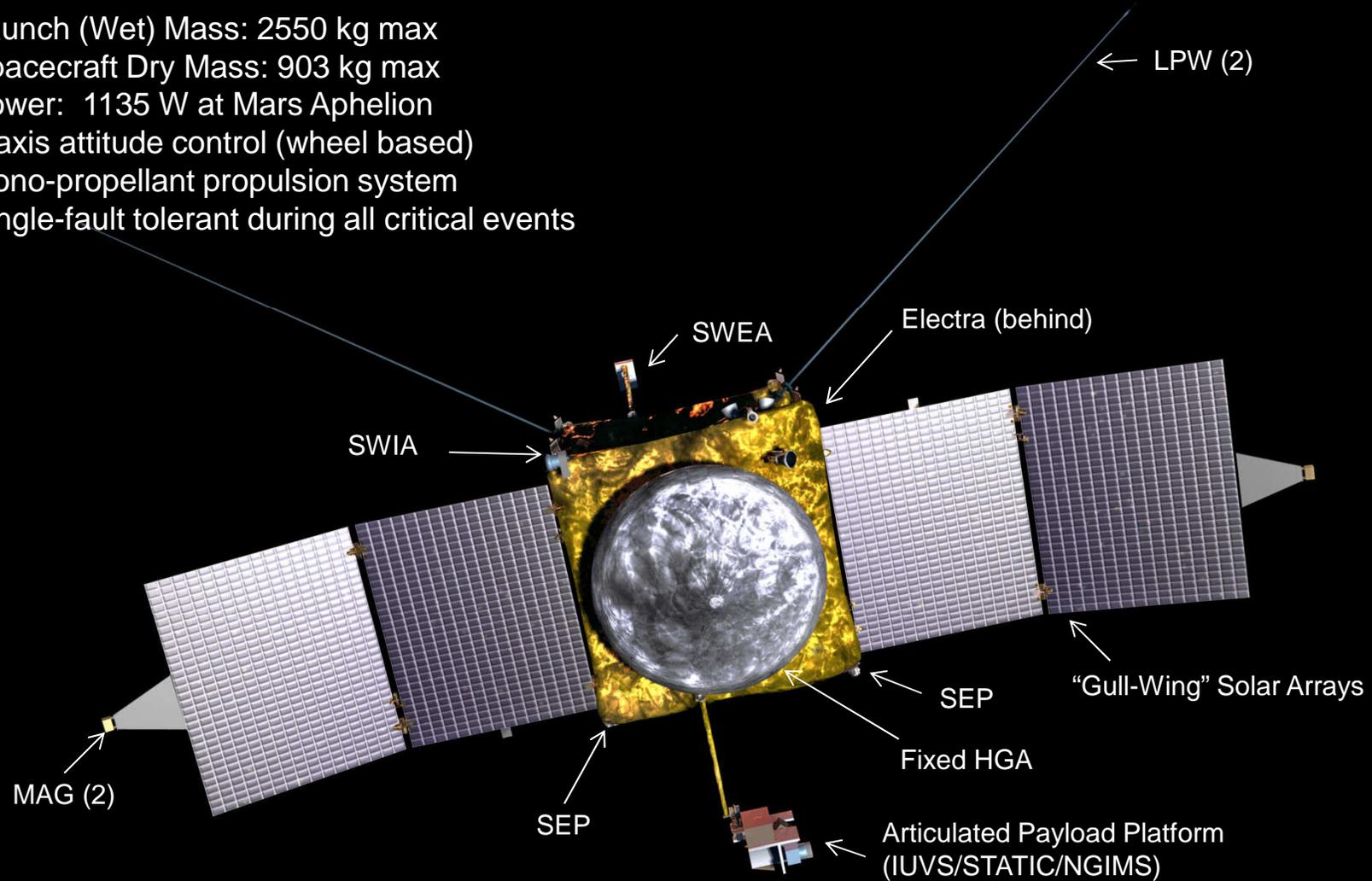


Magnetometer; Jack Connerney, GSFC



The MAVEN Spacecraft

- Launch (Wet) Mass: 2550 kg max
- Spacecraft Dry Mass: 903 kg max
- Power: 1135 W at Mars Aphelion
- 3-axis attitude control (wheel based)
- Mono-propellant propulsion system
- Single-fault tolerant during all critical events



MAVEN Spacecraft In ATLO



Integration of core structure with fuel tank



Recent lift onto rotation fixture, showing current ATLO configuration



Participating Scientist Program

- PS Program planned:
 - Anticipated to run from ~Nov. 2013 to April 2016 (launch through end of mission plus six months)
 - PSs will be added as full members of the science team
 - Foreign proposers welcome; no exchange of funds, but they still would become formal members of science team
- Call for Participating Scientists:
 - To be issued as ROSES amendment via NSPIRES
 - Anticipated proposal due date: ~March 2013
 - Proposal Information Package (PIP) in preparation
- MAVEN Science Community Workshop
 - Intended to brief community on details of mission, instruments, science
 - Sunday, Dec. 2, at venue TBD in San Francisco
 - Agenda posted on MAVEN web site at <http://lasp.colorado.edu/MAVEN>