



**Workshop proposal
to the Science Committee**

**Solar Wind – Comet Surface
Interaction**

WS General Theme

Haley

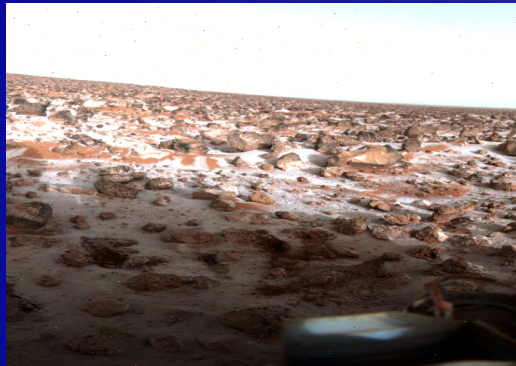


Solar Wind interaction with comet surface material:

- Dust lifting and transport mechanism
- Water storage / release mechanism
- How do they affect the active phase of comets?

Mars:

*Viking
Lander –
Morning
frost*



What can be expected during the Rosetta mission?

Topics



*Solar Wind caused dust-lifting
from the Moon
(SMART-1/ SPEDE)*



*Interactions in Cosmic and Atmospheric
Particle Systems (ICAPS) / ESA*

- Understanding of dust lifting mechanisms on solar system bodies with low atmospheric pressure (Moon, Comets; possibly asteroids, Mars) from observations: Solar Wind, impact
- Understanding of dust transport mechanisms based on modelling
- Understanding of water storage and release mechanisms at material-vacuum boundaries

Topics (cont'd)



- Comet surface material composition and interaction with the Solar Wind
- Induced chemistry in surface material
- Composition of the cometary tail
- Implications for cometary environment and cometary missions
- Implications for the development of the Solar System



*Deep Impact, Stardust,
Stardust-NEt*

Timeliness and relevance to space science

- Recent Stardust and Deep Impact missions
- Chandrayan-1 Moon mission 2008
- Rosetta mission phase preparation
- Optimization of science return for Rosetta

Scientific Relevance

- Knowledge of dust and water release mechanisms are the core questions of cometary research. They form the link between comet formation and solar system development as derived from cometary research
- The workshop will also highlight outstanding problems and areas in which progress remains to be made before the Rosetta core mission 2014

WS Date & Structure

- End 2007 - Late 2008
- 4.5 days, 4 talks/half day, plenary sessions, no splinter sessions, no working groups

Proposed Convenors

- To be agreed with Rosetta science and mission team