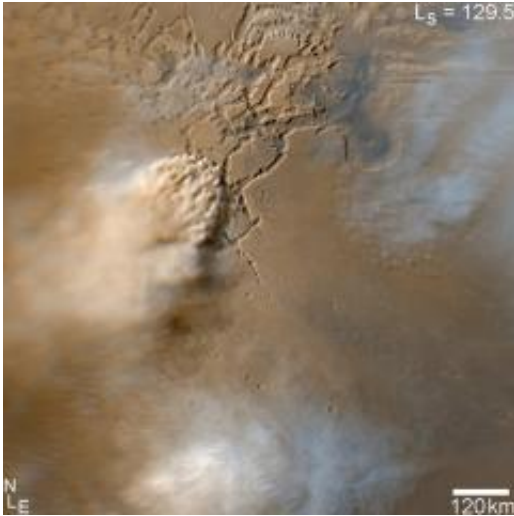


Acoustic levitation could be used on Mars

January 25 2010, by Lin Edwards



Dust storm on Mars. Image credit: NASA/JPL

(PhysOrg.com) -- The presence of fine dust on the Moon and Mars may present problems for explorers, such as coating solar panels, penetrating seals and interfering with machinery. Human explorers would also be endangered if there was a possibility of inhaling the extremely fine dust particles. Now scientists at the University of Vermont are considering a novel solution: acoustic levitation.

Finding ways of dealing with the fine dust is a high priority because the problems it can cause could drastically affect any long-term exploration. The thin atmosphere on Mars means [dust particles](#) are not as rounded as they would be on Earth and can remain quite sharp and abrasive, and they have a high electrostatic charge, which means the fine dust clings to

everything and can penetrate space suit air locks, and make [solar panels](#) inoperable.

The researchers from the Department of Physics and Materials Science Program carried out a feasibility study to develop an acoustic dust removing system for use in space stations or habitations on the [Moon](#) or Mars. They found a high-pitched (13.8 kHz, 128 dB) standing wave of sound emitted from a 3 cm aperture tweeter and focused on a reflector 9 cm away was strong enough to dislodge and move extremely fine (

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