

**Edgett, K. S., and M.C. Malin (1998), Activity of Mars eolian dunes: Observation of a low-albedo dune field at high spatial resolution by the Mars Global Surveyor camera, April 1998, *Abstracts with Programs, Geological Society of America Annual Meeting*, vol. 30, no. 7, p. A404.**

**ACTIVITY OF MARS EOLIAN DUNES: OBSERVATION OF A LOW-ALBEDO DUNE FIELD AT HIGH SPATIAL RESOLUTION BY THE MARS GLOBAL SURVEYOR CAMERA, APRIL 1998**

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Eolian dunes contain grains that have moved via saltation and traction--processes that reflect a relatively limited range of properties for the individual grains and, to a lesser extent, the dune substrate. High resolution images from the Mars Global Surveyor camera are being used to investigate martian dune properties. Of pictures obtained through mid-July 1998, the highest resolution image of one of the larger martian dune fields is 2.54 m/pixel. This image (#23008) is centered on low-albedo dunes at 20.3 N, 280.68 W. The dunes are on a substrate that is darker than the surrounding terrain, but brighter than the dunes. The substrate is heavily pitted, and dark sand is trapped in many of the pits. Slip faces are obvious, their brinks are sharp, and striations suggestive of recent slips are present. Stoss slopes are brighter than the crests and slip-faces. The lower stoss surfaces are nearly as bright as the substrate, and the surfaces darken up-slope from base to crest. Several transverse ridges are located within a swale between two of the dunes; these are interpreted to be large granule ripples. The dunes are crisscrossed by dark lineations up to 50 m wide and often more than 1 km in length. Narrower lines are seen on the interdune surfaces, and some of these are continuous with the lineations on the dunes. The lineations are interpreted to be areas where the surface has been disrupted by the passage of wind vortices. Taken together, these observations suggest that the most recent wind action was limited to the passage of dust devils and the removal of relatively bright material from the upper stoss and crest areas. These conclusions assume that the brighter material on the stoss slopes consists of grains small enough to become ejected into suspension via saltation impact, or of sand-sized silt/clay aggregates that are incapable of surviving saltation.