While the panoramic camera (Pancam) on NASA's Mars Exploration Rover Spirit was taking exposures with different color filters during the 1,919th Martian day of the rover's mission (May 27, 2009), dust devils moved across the field of view.

(PhysOrg.com) -- Scientists have combined a trio of shots taken seconds apart through different colored filters to create a special-effects portrait of a moving dust devil on Mars.

The panoramic camera on NASA's Mars Exploration Rover Spirit was taking exposures through different filters during the 1,919th Martian day of Spirit's mission (May 27, 2009) as part of constructing a large color panorama. Three westward shots, with several seconds intervening between them, caught a whirlwind in motion. A composite image combining the three exposures to make a color image of the Martian ground shows the dust devil in different colors, according to where it was on the horizon when each exposure was taken.

Dust devils occur on both Mars and on Earth when solar energy heats the surface, resulting in a layer of warm air just above the surface. Since the warmed air is less dense than the cooler atmosphere above it, it rises, making a swirling thermal plume that picks up the fine dust from the surface and carries it up into the atmosphere. This plume of dust moves with the local wind.

More than 650 dust devils have been recorded by Spirit since its operations began in 2004. The mission is currently in its third season of dust devils on Mars, which typically begin in Martian spring.

Provided by JPL/NASA (news: web)