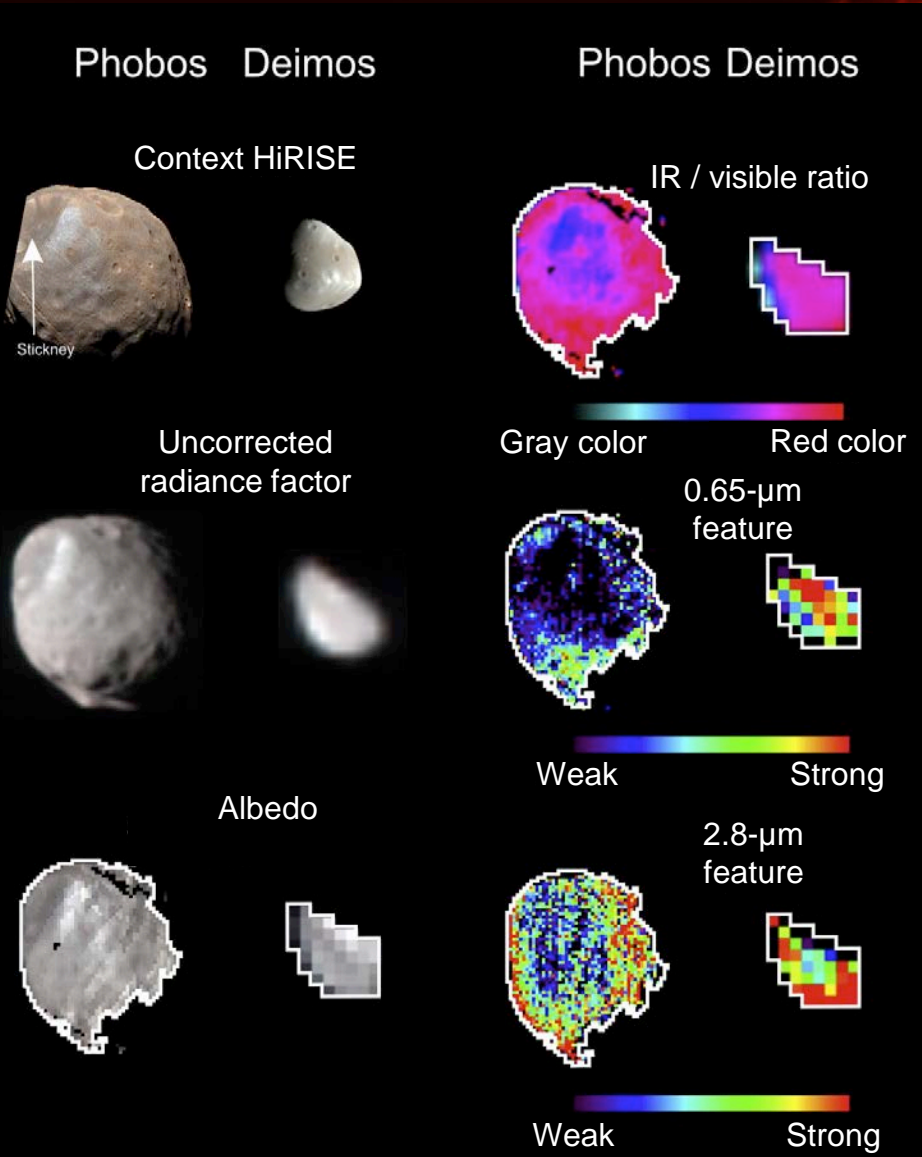
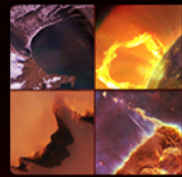


Bound Hydroxide Confirmed on Phobos & Deimos



New spectral features on Mars' moons Phobos and Deimos record the first direct detection of bound hydroxide on the Martian moons, which may provide a potential *in situ* resource for water or hydrogen.

- One feature, centered at 0.65 μm , was measured on the entire surface of Deimos and for the red unit of Phobos, and may indicate OH-bearing clay.
- The second feature, near 2.8 μm , is measured in all areas of both moons (though it too is stronger in the redder areas) and may indicate metal-OH bonds.
- There are two potential hypotheses to explain these features, although a combination of both may be possible:
 - Highly desiccated Fe-clay minerals present in the moons
 - A combination of Rayleigh scattering and absorption of small iron particles formed by space weathering processing, in combination with implantation of H from solar wind.
- The correspondence of evidence for water and clay, plus the moons' low albedo, suggests a composition for these moons similar to primitive carbonaceous meteorites.