

CONTROL ID: 2364885

TITLE: Geology of Pluto and Charon Overview

ABSTRACT BODY:

Abstract (2,250 Maximum Characters): Pluto's surface was found to be remarkably diverse in terms of its range of landforms, terrain ages, and inferred geological processes. There is a latitudinal zonation of albedo. The conspicuous bright albedo heart-shaped feature informally named Tombaugh Regio is comprised of several terrain types. Most striking is Texas-sized Sputnik Planum, which is apparently level, has no observable craters, and is divided by polygons and ovoids bounded by shallow troughs. Small smooth hills are seen in some of the polygon-bounding troughs. These hills could either be extruded or exposed by erosion. Sputnik Planum polygon/ovoid formation hypotheses range from convection to contraction, but convection is currently favored. There is evidence of flow of plains material around obstacles. Mountains, especially those seen south of Sputnik Planum, exhibit too much relief to be made of CH₄, CO, or N₂, and thus are probably composed of H₂O-ice basement material. The north contact of Sputnik Planum abuts a scarp, above which is heavily modified cratered terrain. Pluto's large moon Charon is generally heavily to moderately cratered. There is a mysterious structure in the arctic. Charon's surface is crossed by an extensive system of rift faults and graben. Some regions are smoother and less cratered, reminiscent of lunar maria. On such a plain are large isolated block mountains surrounded by moats. At this conference we will present highlights of the latest observations and analysis. This work was supported by NASA's New Horizons project.

CURRENT CATEGORY: Pluto System

CURRENT : None

AUTHORS/INSTITUTIONS: J.M. Moore