MARS'VASTITAS BOREALIS AND EARTH'S PACIFIC BASIN - COMPARABLE PLANETARY FEATURES OF THE FIRST ORDER

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Many hypotheses were put forward to explain origin of these very prominent tectonic features occupying about 1/3 of surfaces of two differing in size and mass planets. They differ also in orbital periods and eccentricities. Now, knowing that tectonic dichotomy is a common feature of celestial bodies (Theorem 1, Kochemasov, 1998-99) many strange hypotheses can be abandoned (spacially impact and plate motion) and warping action of standing inertia-gravity fundamental waves considered. Interference of such waves of 4 directions (well known as planetary lineaments) produces pressed in oceanic segment about 1/3 of surface and opposite bulging continental hemisphere. Angular momentum considerations require infilling subsided segments with dense basaltic material (tholeiites of Earth and Fe-basalts of Mars) and constructing uplifted segments by less dense material: on average andesitic at Earth and still unknown at Mars. Pathfinder has found K, Si, Al enriched rocks (andesites) in a transition zone between the northern ocean and continent. Lighter (less dense) rocks we expect further inside continents. These compositional regularities were predicted before Pathfinder landing on basis of theorems of wave planetary tectonics (Kochemasov, 1995, 1997). Gamma-ray spectrometry of further missions will show nature of continental rocks. Mars Global Surveyer confirms pressed in narrowed northern hemisphere and wider bulging southern one, as well as dumb-bells-like shape of martian spheres in smaller scales, also predicted by wave planetology.