



## **Enhanced angular momentum of the lunar wide equatorial belt and how Moon works to diminish it.**

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Often observed a sensible difference in appearance and structure between tropical and extra-tropical zones of various heavenly bodies belonging to terrestrial rocky planets, giant gas planets, icy satellites compels to look for a common reason of such phenomenon. All bodies rotate and their spherical shape makes zones at different latitudes to have differing angular momenta as a distance to the rotation axis diminishes gradually from the equator to the poles (this is felt particularly when one launches rockets into space –preferable more cheap launches are from the equatorial regions – Kourou is better than Baikonur). One of remarkable changes occurs at tropics. As a single rotating planetary body tends to have angular momenta of its tectonic blocks equilibrated it starts mechanisms leveling this basic physical property. At wide equatorial zone (the tropical belt,  $\pm 30$  degrees of latitude) - bulged also due to the rotation ellipsoid - the outer shell-crust tends to be destroyed, sunk, subsided and shrunk as a consequence; a density of crust material changes; an atmosphere reacts changing chemistry and structure; in terrestrial anthroposphere man loses its mass and stature. The lunar lithosphere is no exception. Compare it with the Earth's and Mars' ones. At Earth the wide planetary long tropical zone is marked by destruction of the crust. It is demonstrated by development of numerous islands of the Malay Archipelago (the Sunda Isls., Maluku Isls, Philippines) between the Southeastern Asia and Australia. In Africa and South America huge depressions of the Congo and Amazon Rivers develops where the Archean crust is subsided to depths of more than 2 km. In the Pacific along the equator numerous islands of Micronesia occur. Subsidence of the basaltic oceanic crust is followed by an intensive folding and faulting of basalt and sedimentary layers as a larger space must be held by a smaller space (a planetary radius is diminished). The cen-

tral Atlantic is very demonstrative in this sense suffering huge transform fault zones changing to more quite tectonics to the north and south where basaltic effusions form large provinces. This addition of dense basalts to the crust plays to increasing angular momentum of the extra-tropical blocks. At Mars the widespread enigmatic chaotic and fretted terrains at the highland-lowland boundary could be considered as traces of the crust destruction along the wide tropical belt. A system of hillocks and their relics and separating them depressions is controlled by a crosscutting tectonics. Prevailing subsidence here is characteristic. On the Moon the wide latitudinal zone ( $\pm 30$  degrees) is populated by prominent round and irregular basins and marea pressed in the highland crust. These are practically absent at the higher northern and southern latitudes above  $\pm 60$  degrees. (The South Pole-Aitken basin is a structure of different kind: a deeply subsided sector of the sectoral  $\pi R$ -structure of the Moon. The Procellarum is the basic structure of the lunar tectonic dichotomy -  $2\pi R$ -structure). Such engraving the wide equatorial belt plays on diminishing the planetary radius and thus diminishing the angular momentum. The subsidence is manifested also in squeezing out volcanic features (cones, craters) and structural peculiarities of mare basaltic infillings. Enigmatic wrinkle ridges and rills are typical for marea . They mark a contraction occurring when a larger surface must be adapted in to a smaller space under decreasing radius (compare with escarps or lobate ledges on contracted Mercury and with Titan's dark methane lowlands normally rippled in crossing directions). Several stages of basaltic infillings in marea with occupation by the later flows the lower levels also indicate that subsidence was widespread. Certainly, this process is differently expressed in the highlands and marea, in two dichotomous hemispheres, but the basaltic volcanism so typical for the near side tends to continue partly in large basins of this belt in the far side: in the Mare Orientale, Moskovite, Crater Tsiolkovskiy. This tendency is quite comparable with the appearance of darkened-floor craters on Iapetus as continuation of the black Cassini Regio in to the equatorial bright area (PIA09756).