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Enceladus: a new class of celestial bodies?

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Enceladus, a satellite of Saturn, is the smallest body in Solar System where volcanic activity is observed (1). Its thermal history is investigated by (2). He found that the core has low density (contrary to earlier models). This result was confirmed by observations.
Every second, ∼200 kg is ejecting from Enceladus. It is a substantial loss of mass. The mass of the satellite directly after accretion (i.e. proto-Enceladus) can be estimated in two ways (2). Both approaches give similar results (e.g. proto-Enceladus' radius ∼296 km).
The loss of matter from the interior could lead to global compression of the crust. Typical effects of compression are: thrust faults, folding, and subduction. However, such forms are not dominant on Enceladus. We propose special tectonic model that could explain this paradox.
The volatiles escape from the hot region through fractures. The loss of the volatiles results in a void, an instability, and the motion towards the hot region to fill the void in statu nascendi. The motion includes:
(i) Subsidence of the lithosphere of SPT.
(ii) Flow of matter in the mantle.
(iii) Motion of lithospheric plates adjacent to SPT towards the active region.
Numerical model of the resulting flow is developed. It indicates that if emerging void is being filled by the subsidence of SPT only, then the velocity of subsidence is ∼0.05 mm/yr. However, all three types of motion are probably important, so the subsidence is slower but mantle flow and plates' motion also play a role in filling the void. The plates velocities could be ∼0.02 mm/yr.
In our model reduction of the crust area is not a result of compression but it is a result of the plate sinking. Therefore the compressional surface features do not have to be dominant.
Note that we do not know the age of the surface. Age assessment depends on the assumed model of the flux of meteorites. For the lunar-like flux, cratered plains of Enceladus are 4.2 Gyr old, and only 1.7 Gyr old, if cometary impact rates are used (1, 3). If 'cometary' chronology is correct then we have no data concerning 2/3 of Enceladus history. During that time there could be a number of activity cycles, and the total decrease of the surface area could be 300,000 km2.
Enceladus could be an exceptional body, representing a new class of celestial bodies: bodies decreasing as a result of endogenic activity.

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