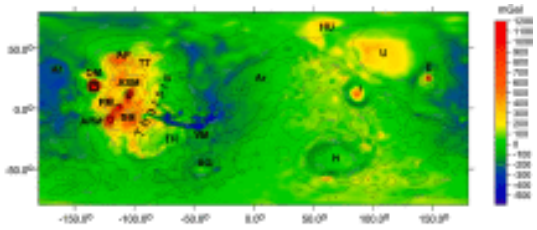
Outline

1.



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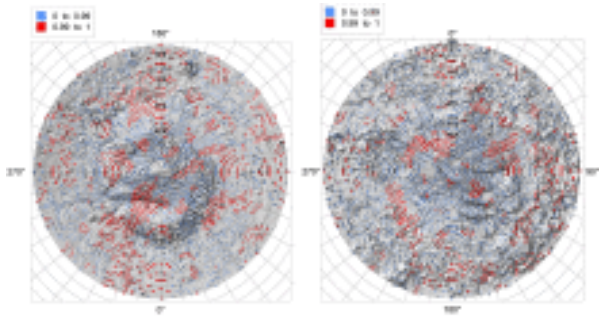

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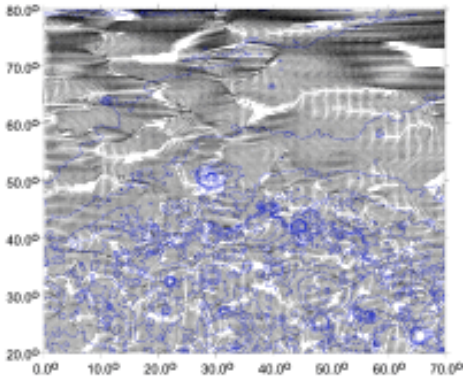

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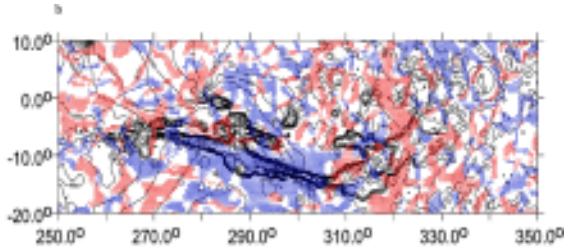

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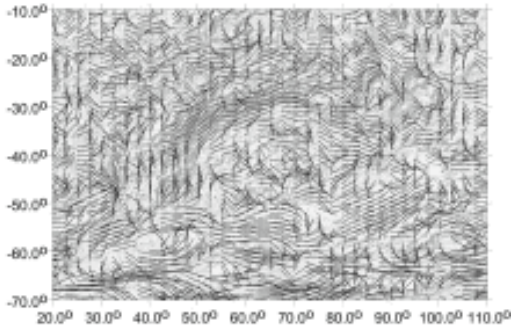

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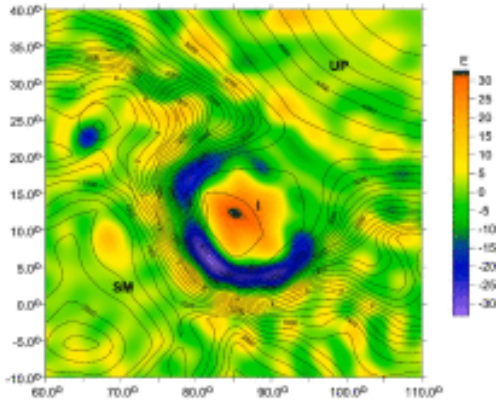

Tables (3)

1. Table 1
2. Table 2
3. Table

Extras (2)

1. Download all
2. Supplementary material 1
3. Supplementary material 2

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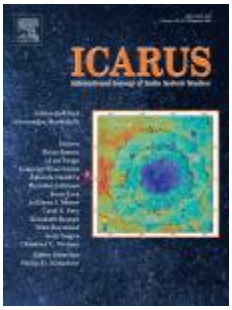

Gravity aspects for Mars

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Highlights

- Introduction of the gravity aspects for Mars.
- Verification of known facts from analysis with the gravity anomalies.
- New findings with the gravity aspects.
- Estimation of the extent of Northern Paleo-Ocean via the gravity aspects and topography.
-

The dichotomy in the light of strike angles, Isidis volcano-like mascon and Hellas basin.

Abstract

We use the recent global gravity field model of Mars (Konopliv et al., 2020) and compute the gravity aspects (descriptors). We introduce a unique method working with the gravity aspects for Mars to achieve novel information about Mars for geologists, geophysicists and others than is feasible by using traditional gravity anomalies alone. New map of gravity aspects allows a better constraining of possible northern paleo-ocean using the MOLA topography, the combed gravity strike angles and features of the fretted terrain as constraints for a “mean” paleo-seashore. The Valles Marineris would contain water that would flow into this ocean.

Keywords

Gravity field of Mars
Gravity aspects
MOLA topography
Groundwater
