

Early Resonances of Tethys and Dione: Implications for Ithaca Chasma

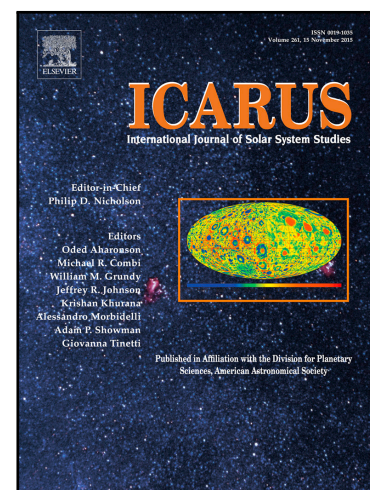
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## Highlights

- Phase-space near 2:1 mean motion resonance of Tethys and Dione is investigated.
- Capture in 2:1 mean motion resonance by tidal migration is possible early in Tethys evolution.
- In resonance, heat production due to tidal dissipation is sufficient for the formation of Ithaca Chasma.
- Orientation of fractures of Ithaca Chasma in high latitude regions corresponds to surface stresses due to orbital expansion.

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