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Bathymetry and Composition of Titan's Ontario Lacus derived from Monte Carlo-based waveform inversion of Cassini RADAR altimetry data

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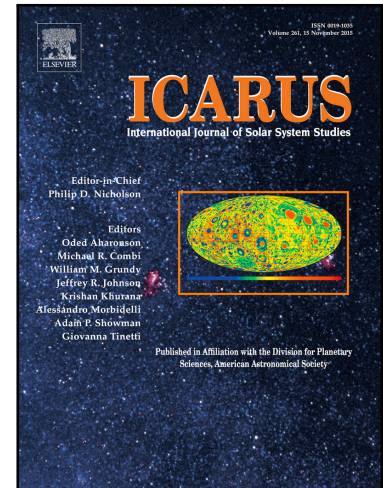
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Highlights

- We have detected reflections from the lakebed of Ontario Lacus by reprocessing Cassini altimetric data of the T49 fly-by (December 2008).
- Simulated waveforms can reproduce saturation and processing artifacts observed in the T49 data.
- Reprocessed data show depths of up to 50 m along track and are consistent with a loss tangent of $7 \pm 3 \times 10^{-5}$.
- The best fit ternary liquid composition (CH_4 , C_2H_6 , N_2) is more ethane-rich than Ligeia Mare.

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