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The near-surface electron radiation environment of Saturn's moon Mimas

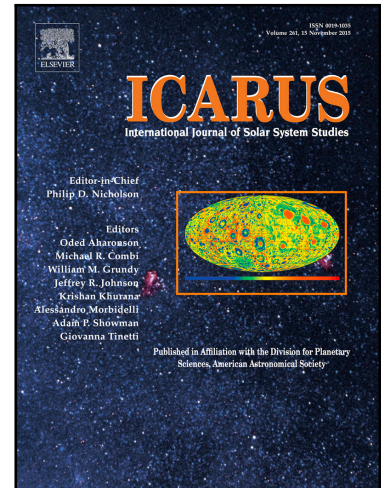
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Highlights:

- We have modeled electron interactions with the surface of Mimas using a particle physics code.
- We present the first spatially resolved dose versus depth plots for a Saturnian moon.
- We have compared the electron dose to other weathering factors, including energetic protons and dust.
- Our results confirm that the observed equatorial lens feature on Mimas is due to the action of MeV electrons penetrating to centimeter depths.
- A hitherto unobserved electron lens feature on Mimas's trailing hemisphere is predicted.

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