

Magnetosphere-Ionosphere-Thermosphere Coupling study at Jupiter Based on Juno First 30 Orbits and Modelling Tools

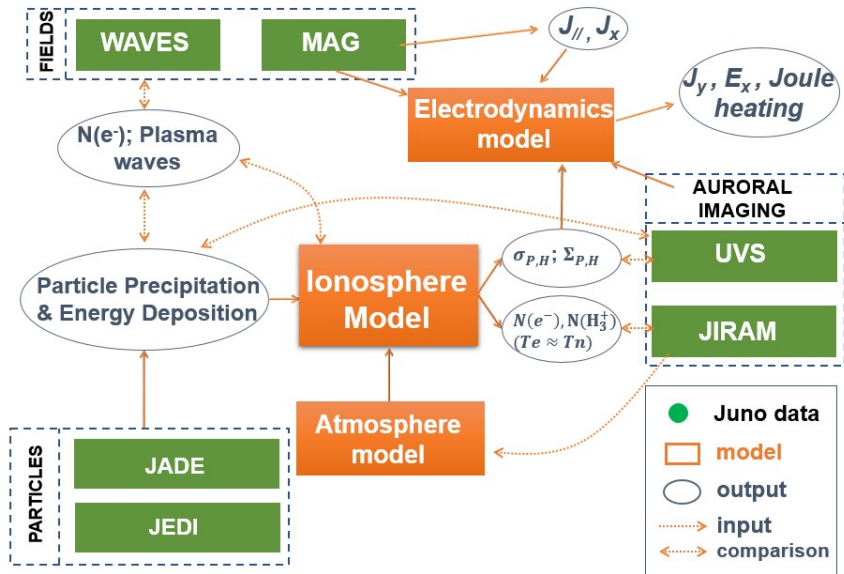
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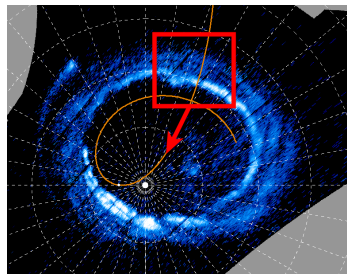
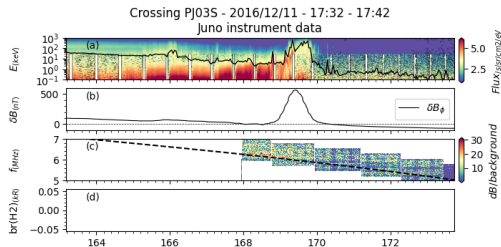


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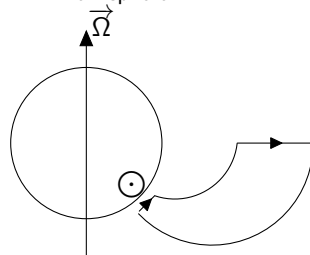
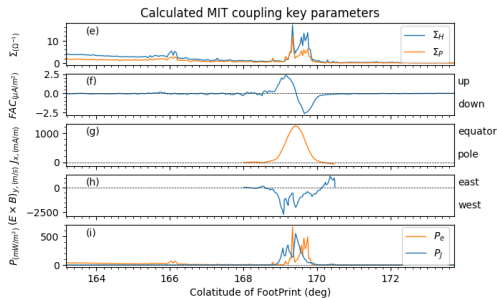
Method



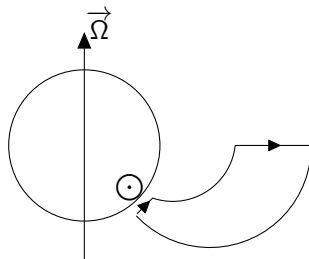
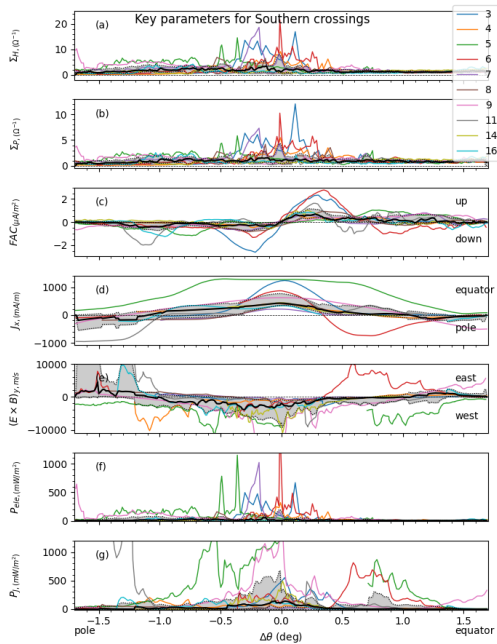
Results - Perijove 3 South



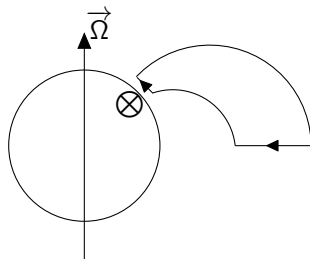
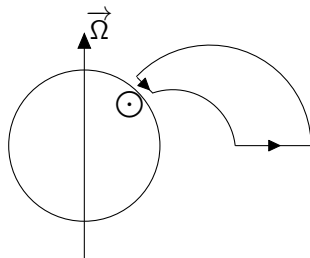
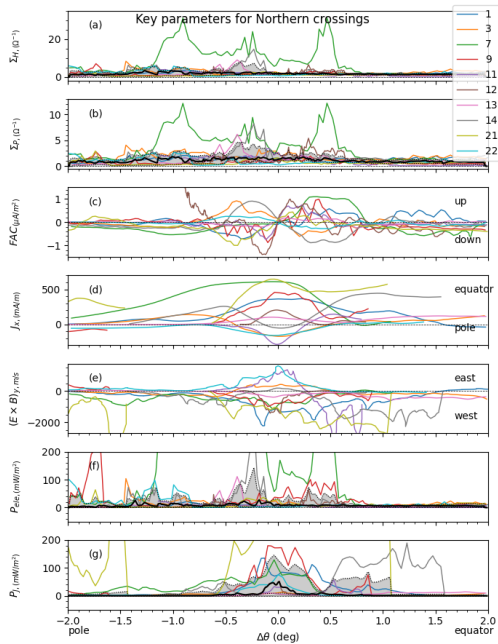
UVS map corresponding to the crossing of perijove 3, southern hemisphere.



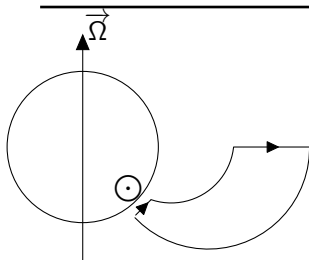
Results - South



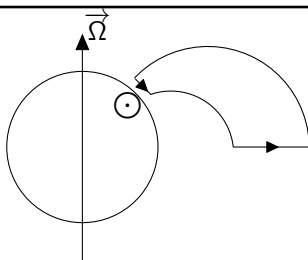
Results - North



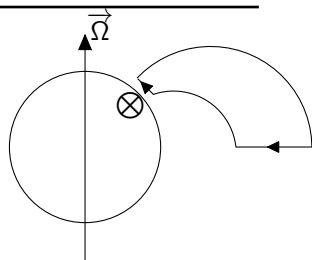
Results - Summary



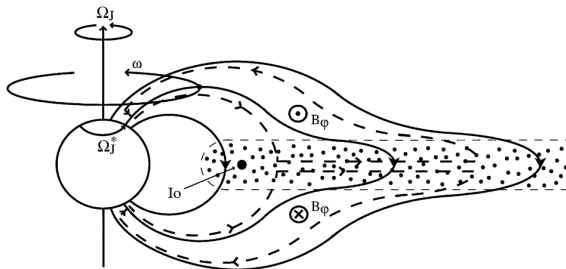
(a) South, Trend A



(b) North, Trend A



(c) North, Trend B



Discussion

- Successful extension of the method of Wang et al. 2021 to the 30 first orbits.
- In the Southern hemisphere, we found a trend consistent with the corotation enforcement model.
- In the Northern hemisphere, two opposite trends are found, with the first one consistent with the corotation enforcement model.
- These results suggest a strong North/South asymmetry in the Magnetosphere-Ionosphere-Thermosphere coupling, which requires a larger local time coverage of the aurora to be investigated. This will be provided by the Juno Extended Mission.
- Study of the Io auroral tail crossings initiated.