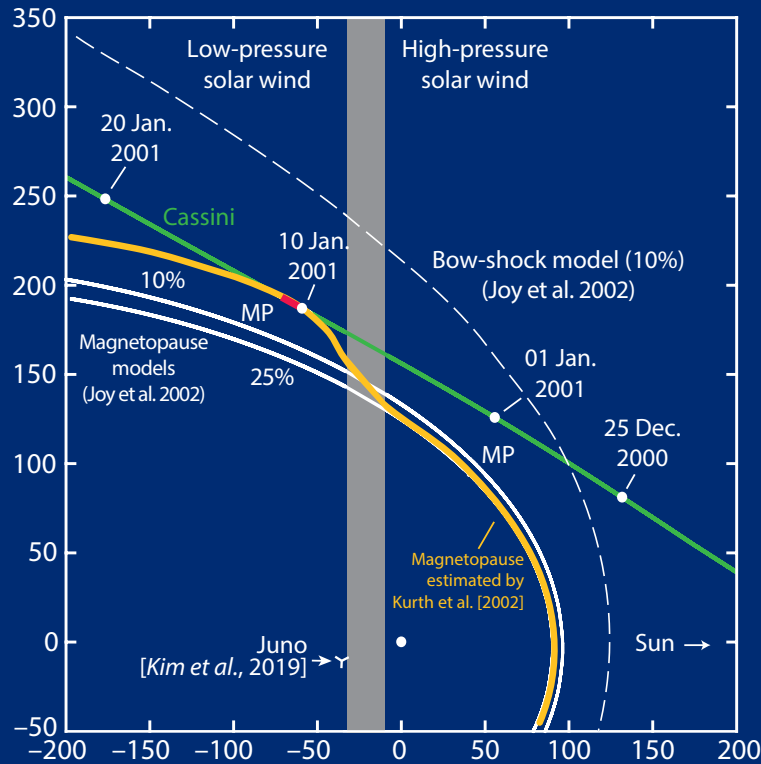
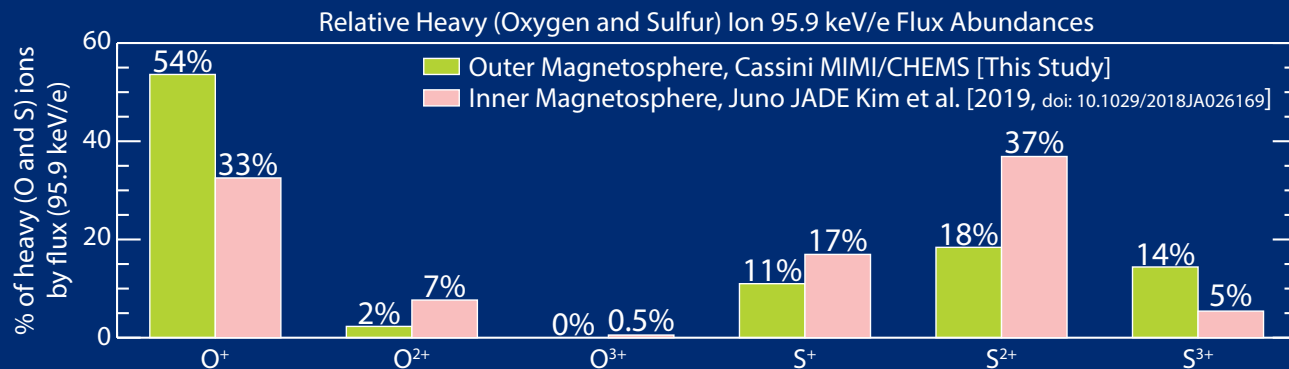


Energetic Oxygen and Sulfur Charge States in the Outer Jovian Magnetosphere: Insights from the Cassini Jupiter Flyby



- Many previous studies have attempted to infer the relative abundance of O^+ and S^{++} indirectly from limited measurements of the Jovian magnetosphere.
- During the Cassini fly-by of Jupiter, Cassini was uniquely equipped to directly measure differentiate these species in the outer magnetosphere.
- This observation is compared to the ratios inferred by other observations in the inner magnetosphere to better understand magnetospheric processing as these ions are transported outward in the magnetosphere.
- Striking differences are observed between the inferred inner magnetospheric observations and those at Cassini ($200 R_J$).



These results indicate a charge-dependent heating/energization or an energy dependence of the charge state abundance in the outer magnetosphere of Jupiter.