

Torus Chemistry Model

- Described in Delamere and Bagenal [2003]
- Model includes: ionization, charge exchange, pick-up, recombination, radiative cooling, ion-electron coupling and electron-electron coupling
- A small population (<1% of total electron density) of hot electrons is required to provide the necessary energy to the torus
- Five model parameters: $t_{\text{transport}}$ rate; neutral source rate, S ; O/S neutral ratio; $f_{\text{hot e}}$ and $T_{\text{hot e}}$
- Apply model to plasma conditions on DOY 277 (high modulation) assuming a steady state condition