

Conclusions

- 1,904 spectral images of the Io torus obtained from October 1, 2000 – November 14, 2000
- Torus EUV emitted power fell by 25% over 45 days
- Both torus and aurora can brighten suddenly, then fade back to “normal”
- $P_{\text{Dusk}}/P_{\text{Dawn}}$ is variable, ranging from 0.74-2.29 with mean of 1.32 and standard deviation of 0.25
- Dawn and dusk ansa have same plasma composition
- Dusk ansa is ~15% hotter than dawn ansa
- Spectral model closely fits data; yields ion mixing ratios and electron temperature of torus
- Mixing ratio of S II steadily decreases while mixing ratio of S IV steadily increases
- No change in electron temperature over observing period