

14 presentations total

Hamilton: Jovian pick-up ions. Neutrals leaving Jovian system are UV ionized & picked up. H⁺, He⁺ (SW), C⁺, O⁺, Ne⁺, S⁺, SO₂⁺⁺??

McComas: Interstellar ion pickup and depletion of H⁺ relative to O⁺: smoking gun for outer source from grains from Kuiper belt.

Hill: Ion pickup and transport at Saturn. Theory and consequences of ion pickup.

Krupp: Electron distributions in/outside of Jupiter's magnetosphere and bow shock. See leaking or reconnecting electrons depending on B-field connectivity. 40 min periodic modulations, also in waves. Hunter: recent observations of 30~40 min oscillations in Xrays correlated with Ulysses.

Coates: Penetrating electrons at Jupiter. Long term electron plots. Penetrating electrons in ELS are related to LEMMS observations by Krupp. ELS shielding => el >800 keV.

Kurth: Jupiter Boundaries observed by Cassini—grew out of workshop at APL looking for shock x-ings. More a record of boundary crossing. Useful summary for community—magnetopause crossings may include. IP shocks. .

Szego: Waves at Titan from cold Titan ions + SW plasma. Parametric study because parameters are poorly known. Two instabilities: 2-stream and ion-ion acoustic beam instabilities. Predicts frequencies and ion/el distributions.

Johnson & Jurac: Neutral sources at Saturn. C₂H₅⁺ ions are present but slow and heavy. N₂ and N are coming out. Titan source is maybe 2x what it was but is 100x less than the inner water source source. Sputtering alone is too weak for inner source—debris around Enceladas.

Mauk (Krimigis): See Nature Feb. 2003—deconvolution of ENA image of Jupiter and Europa neutral ring. Particles coming off are protons. JGR paper is attempt to recreate images using GLL data. Density and pressure dominated by S and O. Flux by H.

Santos-Costa (M. Blanc) Modelling radiation belts at Saturn with Fokker-Planck solutions. Definite structures in protons caused by each moon.

Sittler: Energetic nitrogen in the inner magnetosphere. Earlier was argued to be oxygen from H₂O source. But N⁺ can be enriched in inner magnetosphere by radial diffusion. Implies N⁺ might be dominant sputtering ion rather than O⁺ as usually supposed.

Mitchell: ENA images of Jupiter. 3 ~ 20 keV heavy ion energies, but most of what was seen was H neutrals. Trying to show mostly H from Europa,

Mitchell & Crary: Comparison of SW velocity between MIMI and CAPS. Shift observations to SW frame. INCA estimate is ~50km/s consistently lower than CAPS ion estimates (one point is equal but why offset?).

Krimigis: Possible V_{gr} 1 crossing of heliosphere termination shock at ~85 AU. Huge increase in V_{gr} 1 fluxes but not in V_{gr} 2 (but V_{gr} 2 is closer to sun!). → source must be from outside s/c position. Spectrum is very hard—not like large previous solar event of similar magnitude. Also no velocity dispersion. If termination shock is standing structure then get thickness of 0.05~1.0 AU. Non-solar material is being accelerated: C≪O vs C < O for SW.