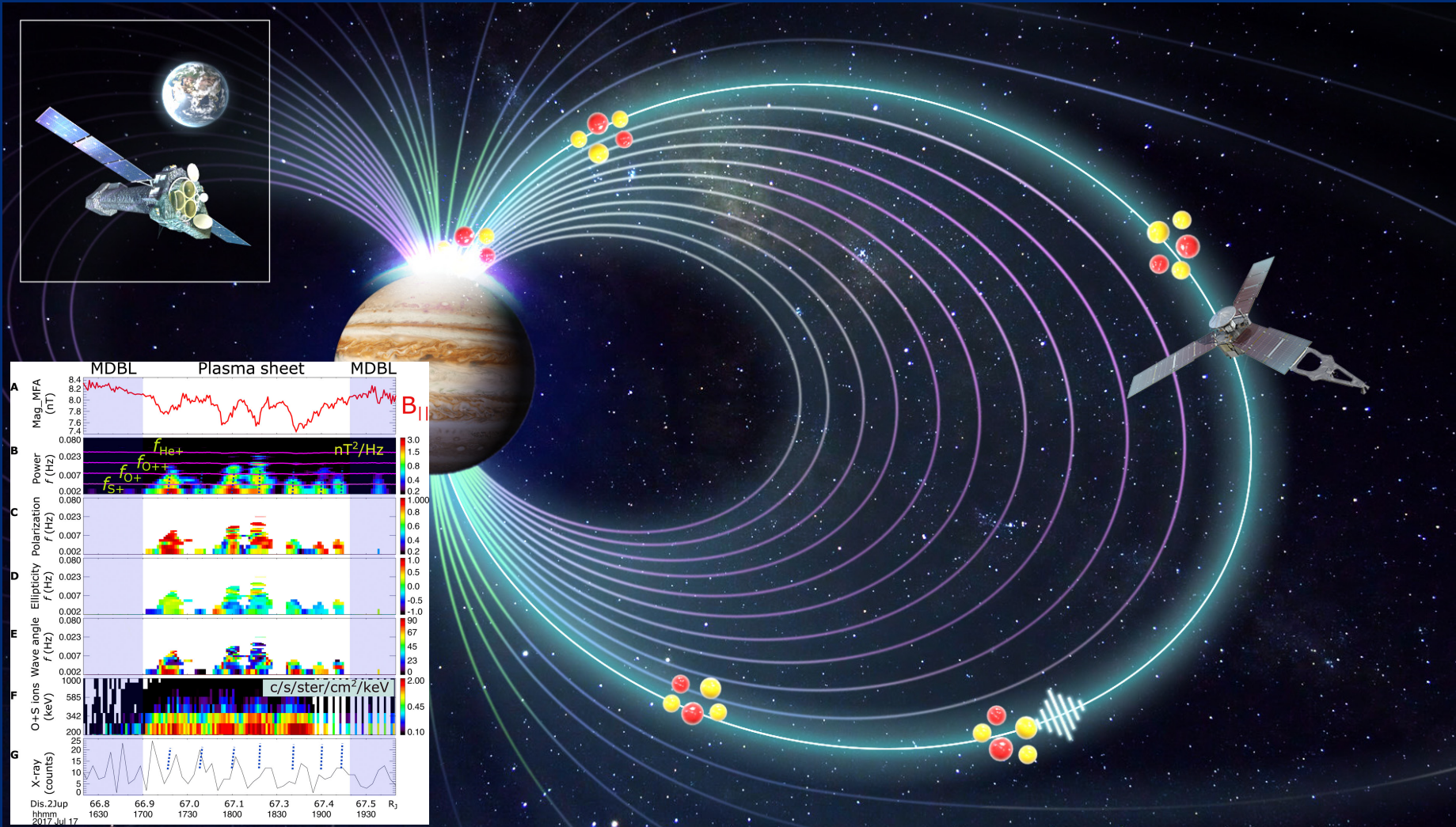


# APL Scientists Help Solve the 40-year Mystery of Jupiter's X-ray Aurora



- Simultaneous observations between NASA's Juno mission and ESA's XMM-Newton observatory reveal new insights into the source of Jupiter's X-ray aurora
- These observations show strong correlations between magnetic compressional mode waves, plasma wave power, energetic heavy ion fluxes and X-ray pulsation rates—providing strong evidence that ion cyclotron waves are the primary driver
- This study reveals that EMIC waves could drive important ion dynamics not only in Jupiter's inner magnetosphere, but also throughout Jupiter's middle and distant magnetosphere, producing the spectacular x-ray pulsations in Jupiter's high-latitude polar regions.

**Jupiter's unique X-ray aurora shows surprising similarities to terrestrial ion aurora; heavy ion scattering by electromagnetic waves**