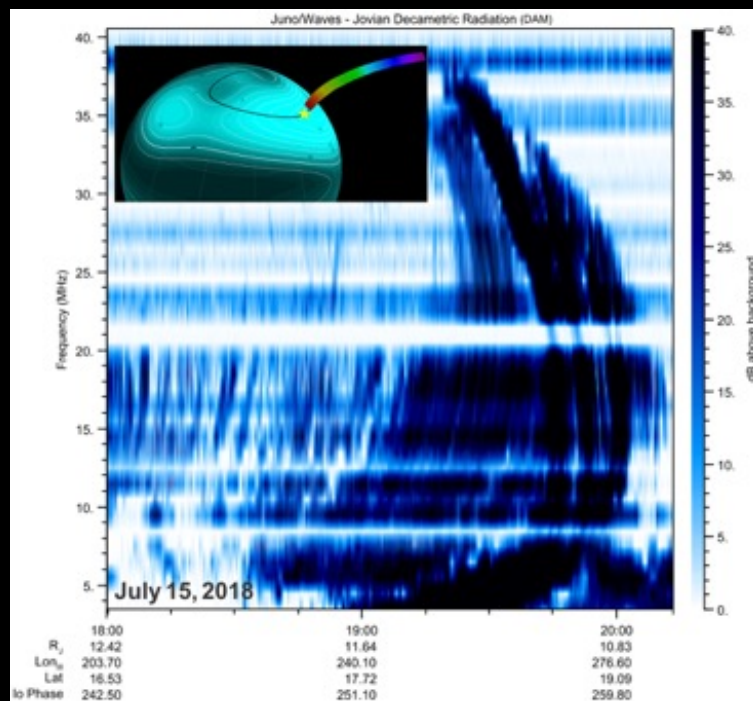




Juno “*Listens*” to Io-Jupiter “*Conversations*”

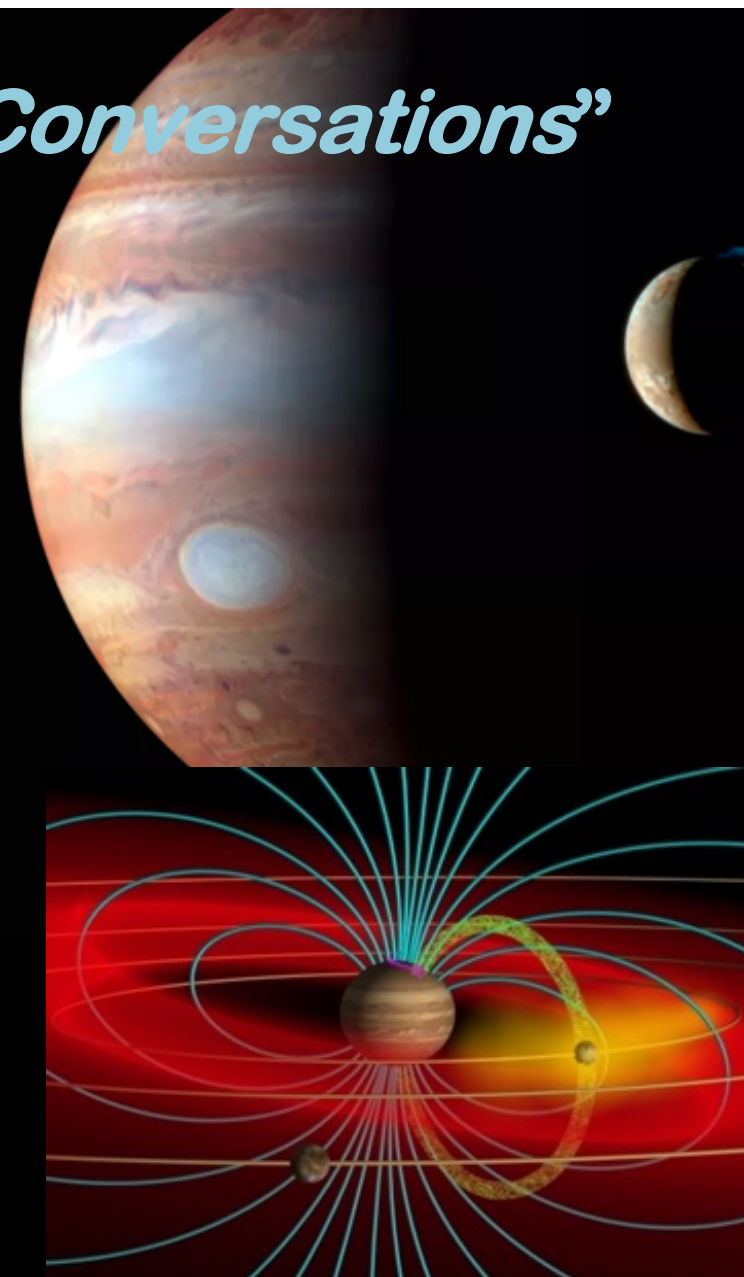
Io “communicates” with Jupiter via energetic electrons that generate (decameter) radio waves (so-called DAM) while traveling along its magnetic field. The Juno Waves instrument “listens” to this “conversation”. We found the source of these waves and identified the energy of the electrons involved (up to 23 times higher than previously proposed!).



We showed that it is the geometry of Jupiter’s magnetic field that controls when and where Juno can “listen in” on the conversation between Jupiter and Io. Our results will help in understanding planetary magnetic fields, even those outside of our Solar System, which we may some day “listen in” on.

“Conversation” between Jupiter and Io captured by Juno Waves as a group of DAM. Colorful line represents the source of the observed waves.

Martos, Y.M., Imai, M., Connerney, J.E., Kotsiaros, S. and Kurth, W.S., 2020. Juno reveals new insights into Io-related decameter radio emissions. *Journal of Geophysical Research: Planets*, p.e2020JE006415.



Visualization of Io-Jupiter “communication” through the Io Flux Tube in yellow (credit: John Spencer)