

R009-11

B会場 : 9/26 AM2 (10:45-12:30)

11:45~12:00

#今井 雅文¹⁾, Kurth William S.²⁾, Kolmasova Ivana³⁾, Santolik Ondrej³⁾, Wong Michael H.^{4,5)}, Brown Shannon T.⁶⁾, Hospodarsky George B.²⁾, Bolton Scott J.⁷⁾, Levin Steven M.⁶⁾

(¹新居浜高専, (²University of Iowa, (³The Czech Academy of Sciences, (⁴SETI Institute, (⁵Center for Integrative Planetary Science, University of California, Berkeley, (⁶Jet Propulsion Laboratory, California Institute of Technology, (⁷Southwest Research Institute, Sa

Statistical study of Jupiter dispersed pulses observed by Juno

#Masafumi Imai¹⁾, William S. Kurth²⁾, Ivana Kolmasova³⁾, Ondrej Santolik³⁾, Michael H. Wong^{4,5)}, Shannon T. Brown⁶⁾, George B. Hospodarsky²⁾, Scott J. Bolton⁷⁾, Steven M. Levin⁶⁾

(¹National Institute of Technology, Niihama College, (²University of Iowa, (³The Czech Academy of Sciences, (⁴SETI Institute, (⁵Center for Integrative Planetary Science, University of California, Berkeley, (⁶Jet Propulsion Laboratory, California Institute of Technology, (⁷Southwest Research Institute, San Antonio

Jupiter's lightning produces strong pulses at radio wavelengths. One type of lightning-induced electromagnetic waves are dispersed millisecond pulses called Jupiter dispersed pulses (JDPs) found at frequencies below 150 kHz. During the polar peri-jove passes of Juno through 33 orbits, we found over three thousand 16-ms burst snapshots that included one or more JDPs observed by the radio and plasma wave (Waves) instrument. Assuming that JDPs propagate in the free left-hand ordinary (L-O) mode, we proposed an O mode propagation model in which low-density plasma irregularities are located between Juno and lightning strokes. These irregularities take the form of ionospheric holes with densities below 250 cm^{-3} . By taking account of the group delay of L-O mode waves, we estimate the length of these irregularities from a fraction of a km to a few times 10^5 km . Also, we compare the JDP locations with the cloud features captured by the Hubble Space Telescope. In this presentation, we show the statistical characteristics of JDPs and the related ionospheric holes using Juno data.