



## **Analysis Update of LOFAR Data from HD 80606b Near Planetary Periastron**

Daniel Winterhalter (1), Mary Knapp (2), Walid Majid (1), Joseph Lazio (1), William Farrell (3), and Laura Splitter (4)

(1) NASA/Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, United States (daniel.winterhalter@jpl.nasa.gov), (2) Massachusetts Institute of Technology, Cambridge, MA, United States, (3) NASA Goddard Space Flight Center, Greenbelt, MD, United States, , (4) Cornell University, Ithaca, NY, United States

This paper describes the continued analysis of data taken during LOFAR Cycle 0 targeting HD 80606b, a Jovian-type exoplanet. Its orbit is among the most eccentric known, meaning that it is naturally exposed to a wide range of stellar wind strengths, which should modulate its radio emission. Further, the high orbital eccentricity suggests that it is in a state of pseudo-synchronous rotation, leading to a relatively robust estimate of its characteristic emission frequency. It may be among the most promising planets for the direct detection of radio emission.

The observations were made 48 hours and 18 hours pre-periastron, plus 18 and 48 hours post-periastron to capture the predicted strongest emission, and near apastron to provide a baseline level. The data are analyzed for both time-dependent and frequency dependent emission at each of the five observation epochs. This work presents the ongoing analysis of the data.