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Cassini Radio Science observations of the Saturn ionosphere during the Cassini Equinox and Solstice missions

Arvydas Kliore (1), Andrew Nagy (2), Essam Marouf (3), and Aseel Anabtawi (1)

(1) California Institute of Technology, Jet Propulsion Laboratory, Pasadena, United States (akliore@jpl.nasa.gov, 001 8183931717), (2) University of Michigan, Ann Arbor, United States (anagy@umich.edu), (3) San Jose State University, San Jose, United States (eamarouf@mail.sjsu.edu)

The results of the Cassini radio occultation measurements of the electron density profiles in the Saturn ionosphere during the Cassini Prime mission (2005-2008) have been presented previously(Nagy, A.F., et al., JGR, 2006; Kliore, A.J., et al., JGR, 2009). These measurements covered mostly low- and mid-latitudes, with some high-latitude measurements in the Southern hemisphere.
Between July of 2009 and March of 2010, the first Cassini extended mission, called the Equinox mission was conducted, during which some equatorial and mid-Northern latitude ionosphere profiles were obtained. Beginning in August of 2011, and extending to 2016, the Solstice mission phase will provide some mid-latitude profiles, but most importantly some high Northern latitude observations from January to March of 2013, and some high Southern latitude profiles from April to May of 2013, Beyond this time the, the rings obscure all but the equatorial latitudes, and no further occultation measurements will be made. In this paper we will report on the comparison of these new observations to those from the original Prime mission, and draw conclusions on temporal changes at different latitudes.
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