

HST/STIS Observations of Ganymede's Auroral Ovals at Eastern Elongation

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We report on new Space Telescope Imaging Spectrograph (STIS) observations of Ganymede's auroral emissions obtained (to be obtained) during two visits with the Hubble Space Telescope (HST). The observations of the first visit, a five orbits, were obtained on November 19, 2010 and the second visit, also a five orbits, is scheduled for opposition in October/November 2011. We will present results of the full campaign, in case of a successful execution of the second visit. Our observations cover more than half a cycle of system III longitudes of Ganymede's positions within Jupiter's magnetosphere for each visit. We analyze the observations with respect to brightness and locations of Ganymede auroral ovals. Our goal is to set constraints on the interaction of Ganymede's mini-magnetosphere with Jupiter's magnetosphere, Ganymede's magnetic field and plasma environment, and if possible on Ganymede's neutral atmosphere.