



Space Weather Phenomena at the Galilean Satellites

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In the framework of the JUICE mission, characterization of Galilean satellites atmospheres is a priority. Although Ganymede and Europa possess a faint atmosphere, their exosphere show emissions features due to both solar UV flux as well as precipitating particles. Using the atmospheric model proposed by Marconi (2006,2007), we have developed a model of exospheric emissions by only considering primary collisions. Two regions will be considered for Ganymede, a polar one mainly dominated by oxygen, and an equatorial one with the predominance of water. Model of Europa's atmosphere presents an uniform one dominated by oxygen. Since Ganymede has its own magnetic field, the polar regions are mainly affected by particle precipitations while in case of Europe, the whole atmosphere has to be considered. Comparison with direct observations such as local measurements from Galileo (electronic density), or remote observations with the Hubble Space Telescope in the UV (oxygen lines at 130.5 and 135.5 nm), shows a good agreement which ensures us to provide reasonable constraints for the JUICE mission.