An Overview of Galileo Plasma Wave Observations at Venus and Earth

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Abstract

The Galileo spacecraft has now completed flybys of both Venus and Earth on its way to Jupiter. While the Venus observations were severely limited by thermal and data volume constraints, interesting observations of waves associated with the bow shock were obtained. The plasma wave receiver also detected bursty emissions above 100 kHz which may be evidence of atmospheric lightning at Venus. The Earth flyby was particularly suited to a brief study of the geomagnetic tail because of the near post–midnight local time of the inbound leg of the trajectory. In addition to the expected plasma wave spectrum, the tail excursion provided a number of observations associated with substorms which promise to provide new insights on the dynamics of the magnetotail.

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