



## **Ion distributions upstream from the bow shock of Venus**

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We present observations and analysis of energetic ion distributions in the solar wind upstream from the bow shock of Venus as measured by the IMA mass spectrometer (Aspera-4) onboard Venus Express. Backstreaming ions produced by a reflection process at the bow shock surface and populating the foreshock are clearly observed both in the quasi-perpendicular and the quasi-parallel parts of the Venusian foreshock, the later clearly associated with large amplitude ULF waves. Proton ring-like distributions are also observed for the first time in the upstream region of Venus. They may be the source of waves at the proton cyclotron frequency recently reported from the magnetometer data [Delva et al., 2007].