

IONOSPHERIC PHOTOELECTRONS AT VENUS – A STATISTICAL REVIEW COVERING THE FIRST YEAR OF THE VEX MISSION

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At unmagnetised bodies, such as Venus, the solar wind interacts directly with the planet's atmosphere, causing an induced magnetosphere to form. Ionospheric photoelectrons are created when the solar HeII 30.4nm line ionises the upper part of the atmosphere, producing ionospheric photoelectrons and positive ions. Theory predicts these photoelectrons will be seen as two distinct peaks, at 21-24eV and 27eV, in the electron energy spectrum. These events have recently been seen at Venus as well as in other parts of the solar system, such as Earth, Mars, Titan and Saturn's rings. Several case studies at Venus have previously been published by the authors using electron, and corresponding ion, data from the Venus Express instrument ASPERA-4. We will now present a statistical review of ionospheric photoelectrons at Venus in the main ionosphere, and in the tail region, covering the first year of the Venus Express mission.

Venus, Photoelectrons, Plasma-Interaction

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