

# PLASMA ACCELERATION IN THE MARTIAN AND VENUSIAN MAGNETOTAILS

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Massive observations of the plasma flows in the Venusian and Martian magnetotails with Aspera-3 and Aspera-4 instruments (Mars Express and Venus Express missions) allows to compare the plasma regimes in both wakes. It was shown that at the both planets, the main acceleration on the planetary ions occurs in the plasma sheet, which is a thin (0.4 of planet radius) layer located in the plane containing vectors of convectional electric field and velocity of the solar wind. The scale of such acceleration is different at both planets. Also the spatial and velocity distribution of different species are divergent at Mars and Venus. It was mentioned that anomaly accelerated electron spectra (called "peaked") observed in the Martian wake always corresponds to the plasma sheet (or current sheet) region. The Venusian plasma sheet lacks this clear feature, but electrons observed there show clear thermalization in comparison with other wake regions. The magnetotails of both planets show a strong flow of the low energy ions at their periphery. The polar wind mechanism can be proposed to explain a such low energy flow.