



A survey of heavy ion beam events observed by Mars Express and the possible influence of magnetic anomalies

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We extend previous studies of heavy ion beams observed in the vicinity of Mars by the Mars Express ASPERA-3 ion mass analyzer. The spatial properties, i.e. location and direction of flow are investigated. It is discussed whether any of the spatial characteristics indicate an influence of magnetic anomalies. The ion events concern heated/accelerated ions with energies above 300 eV so the gyro radii of the ions are mostly large compared to the size of magnetic anomalies. Therefore phenomena such as bending of the ion path or heating up to some threshold energy after which the ions are lost from the anomaly due to gyro radii effects are the kind of effects we are looking for.