



HRSCview: A web-based data exploration system for Mars Express HRSC

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To increase the usability and accessibility of the very large HRSC dataset to the science community we have implemented a system for exploring the data via the web, with linked access to full archived science dataproducts. The system may be accessed using a normal browser from a joint website of the Free Uni-versity of Berlin and the German Aerospace Center (DLR).

HRSCview permits exploration within the images by carrying out on-the-fly data-subsetting, sub-sampling, stretching and compositing, and in the case of perspective views, projection. This means regions of interest can be explored at full resolution without need-ing to download full dataproduct sets. It is possible to view colour and elevation composites with nadir im-ages and select different colour stretches or infra-red channel substitution. It offers perspective views with a choice of viewpoint and exaggeration. The data are explored using Mars surface coordinates, making it simple to move between multiple images of the same location, between adjacent images, and also from a global image-footprint map directly into an HRSC im-age at a position of interest. The pixel scale of the view can be selected; distance and elevation scale bars are provided. Images can be accessed by orbit/image num-ber as well as via the footprint map. In either case, a link is provided to a dataproduct page, where header items describing the full map-projected science dataproduct are displayed, and a direct link to the ar-chived dataproducts on the ESA Planetary Science Archive (PSA) is provided. HRSCview has been in use by the instrument Co-I team since August 2006, and will shortly be opened for public access. At present the elevation composites are derived from the HRSC Pre-liminary 200m DTMs generated at the German Aero-space Center (DLR), which will not be available as separately downloadable dataproducts. These DTMs will be progressively superseded by systematically generated higher resolution archival DTMs, also from DLR, which will be made available for download

through the PSA, and be similarly accessible via HRSCview. The service is distinct from that provided by the PSA in that it provides a means to explore inside the individual (but very large) images, carrying out a pre-liminary on-the-fly processing of the science data. A more powerful version of the software, including tools for quantitative DTM analysis and intended for work-ing with locally hosted HRSC dataproducts, will be made available to work with the archival DTMs.