

Structure of a comet magnetosphere
Remote detection of a shock

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During the period around perihelion Rosetta was located inside the comet magnetosphere. No solar wind ions were present, or at least very few. The cometary ions observed included several populations, with the locally produced low energy population having the highest density. More energetic ions of cometary origin were seen flowing mainly in the anti-sunward direction. For energies up to about 1 keV the flux of these ions decreased with energy in a manner consistent with expected production of ions by ionisation of the coma in combination with an approximately uniform electric field. At higher energies a population with higher flux could at times be seen. We discuss how these energy spectra can be interpreted in terms of the structure and electric fields of the comet magnetosphere. In particular we discuss whether a feature showing enhanced fluxes in the energy range from 1 keV up to about 20 keV can be interpreted as the remote detection of a shock feature in the comet – solar wind interaction.