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Since August 2014, the Rosetta spacecraft has been studying the coma of comet 67P/Churyumov-Gerasimenko. The Rosetta Orbiter Spectrometer for Ion and Neutral Analysis (ROSINA) sensor DFMS is a double focussing mass spectrometer with a mass range 13–140 u/e. It is optimized for high mass resolution and large dynamic range and is a tool for the characterization of the volatiles in the coma.

The hydrogen halides hydrogen fluoride (HF), hydrogen chloride (HCl) and hydrogen bromide (HBr) have been measured in the coma of comet 67P/Churyumov-Gerasimenko using DFMS. This presents the first time HBr has been detected in a comet. This presentation will focus on the abundance, variability and isotopic ratios of the halogens in the coma.

Since comets retained information about the physical and chemical conditions of the protoplanetary disk from which they formed, these results may provide insights into the halogen chemistry in the early Solar System.