

Rare species in Churyumov-Gerasimenko's early coma

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Abstract

ROSINA DFMS has a very high dynamic range and a good mass resolution and is therefore able to measure some of the rare species in a cometary coma which can help to answer some of the important questions about the origin and evolution of the solar system [1]. Among them are HDO, N₂, and the oxygen isotopes in water and in CO₂. While it is too early to come to a clear conclusion DFMS is seeing all of these species. However, due to the large density variations in the coma it is not straightforward to get solid numbers for the ratios HDO/H₂O or C¹⁶O₂/C¹⁶O¹⁸O, etc. This talk will give an overview of the current status.

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References

[1] Balsiger H., Altwegg K., Bochsler P., et al. 2007, Sp. Sci. Rev., 128, 745.