



Correcting peak deformation in Rosetta's ROSINA/DFMS mass spectrometer

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The Double Focusing Mass Spectrometer (DFMS), part of the ROSINA instrument package aboard the European Space Agency's Rosetta spacecraft visiting comet 67P/Churyumov-Gerasimenko, experiences minor deformation of the mass peaks in the high resolution spectra acquired for $m/Z = 16$, 17 , and to a lesser extent 18 . A numerical deconvolution technique has been developed with a two-fold purpose. A first goal is to verify whether the most likely cause of the issue, a lack of stability of one of the electric potentials in the electrostatic analyser, can indeed be held responsible for it. The second goal is to correct for the deformation, in view of the important species located around these masses, and to allow a standard further treatment of the spectra in the automated DFMS data processing chain.