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# UV illumination and photochemistry in the coma of 67P/Churyumov-Gerasimenko : Results from the Rosetta/ROSINA/DFMS Mass Spectrometer

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The solar UV flux is responsible for many photo-dissociation and photo-excitation processes within planetary and cometary atmospheres. We focus here on the impact of solar activity at very short time scales (i.e. solar flares) on the atmosphere of 67P/Churyumov-Gerasimenko as characterized by the ROSINA/DFMS mass spectrometer onboard the ROSETTA spacecraft. During early comet activity, the coma is very tenuous so that it can be considered optically thin. Solar flares with a large increase of the UV flux are expected to have significant consequences on the photo-chemical processes. From ROSINA/DFMS we infer the time series of $H_2O$ and some of its photo-dissociation products. We analyze the impact of the EUV flux on the amount of these photo-dissociation products using high mass-resolution spectra.