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Towards a complete caracterisation of Ganymede's environnement

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In the framework to the JUICE mission to the Jovian system, a complete picture of the interaction between Ganymede's atmosphere and external forcing is needed. This will definitely allow us to constrain instrument performances according to the mission objectives. The main source of information regarding the upper atmosphere is the non LTE UV-Visible-near IR emissions. Those emissions are both induce by the incident solar UV flux and particle precipitations. This work aims at characterizing the impact from those external forcing, and then at deriving some key physical parameters that are measurable by an orbiter, namely the oxygen red line at 630 nm or the resonant oxygen line at 130 nm for example.
We will also present the 4S4J instrument, a proposed EUV radiometer, which will provides the solar local EUV flux, an invaluable parameter for the JUICE mission. Based on new technologies and a new design, only two passbands are considered for reconstructing the whole EUV spectrum.