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Dayglow and auroral emissions of the Jovian moons

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In the frame of the JUICE mission, preliminary studies of the Jupiter's icy moons, such as Ganymede and Europa, are mandatory. We will first focus on the impact of the solar UV radiation, from solar quiet conditions to solar flares, which is responsible for the photoionization and photodissociation processes within planetary and cometary atmospheres. A 1-D photochemistry-emission-transport coupled model has been developed for inferring airglow emissions in the visible from Europa and Ganymede. The impact of precipitating particles will also be considered in order to estimate auroral emission, for the oxygen lines at 130.5 and 135.5 nm, using radiative transfer modelling.