



Contribution ID: 440

Type: **Poster**

Helium line radiances in the solar corona

Wednesday, September 8, 2021 11:00 AM (13 minutes)

In a recent work, Del Zanna et al. (2020, ApJ 898 72) have presented and discussed a new set of collisional-radiative models (CRMs) for helium in the quiescent solar corona, the largest of which includes fully LS-resolved set of states up to $n=40$ and n -resolved states up to $n=300$. Using those models, the corresponding emissivities for some important He I and He II lines relevant for DKIST, Solar Orbiter, and Proba-3 instruments have also been computed. We present here an extension of that work, which includes predicted line radiances of He II 30.4 nm, He I 1083.0 nm and 587.6 nm lines in various structures of the solar corona, and an analysis of the dependence of those radiances on various physical parameters such as electron density and temperature, photoexciting and photoionizing radiation fields.

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Session Classification: Poster Session 6.3

Track Classification: Session 2 - The Solar Atmosphere: Heating, Dynamics and Coupling