



Radiative transfer of the oxygen 130nm triplet through the atmosphere of Mars and Venus.

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The problem of the oxygen emission in the planetary atmospheres is crucial to constraint the atmospheric models. The oxygen 130nm triplet is optically thick in those atmospheres and is resonant with sun radiations. The instruments SPICAV and SPICAM are able to measure the intensity of this triplet without any spectral resolution. The Hubble space telescope with the STIS instrument is able to get enough spectral resolution to see the lines profile.

In previous simulations, the overlapping between this triplet and lines of the CO fourth positive band has never been taken into account. We present new simulations calculating the oxygen 130nm triplet intensity and line profile taking into account the overlapping problem with a partial redistribution. Due to the structure of the triplet, we had to develop a new expression of the RII redistribution function. The effects of the CO lines modified strongly the O 130nm line parameters, intensity and line profile. These effects depend strongly of the geometry of the line of sight. We show that it is essential to take this problem into account in both the martian and venusian cases and that this could be a very useful way to get strong information on both the CO and the O states in these atmosphere for various geometrical conditions.