

Photochemistry in dense atmospheres of Earth-like exoplanets

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Although Earth-like exoplanets are expected to be found and investigated in the next 5-15 years with satellite missions such as Kepler and Darwin, exact Earth replicas are unlikely. Nevertheless, up to now only 1bar Earth-like atmospheres of terrestrial exoplanets have been studied. Here we vary the surface pressure of atmospheres of Earth-like terrestrial planets around a solar-type star at 1AU orbital distance using a coupled climate-photochemical column model.

The changing atmospheric mass has quite a huge impact on atmospheric photochemistry, hence on the responses of atmospheric biomarkers such as methane and ozone.