

Influence of the spectral stellar flux distribution on atmospheric dynamics of extrasolar Earth-like planets

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Abstract

Our main goal is to investigate possible Earth-like exoplanet scenarios and spectra taking into account atmospheric dynamics and chemistry. As a first step we use the state-of-the-art 3D General Circulation Model ECHAM5/MESSy (EMAC) to study the influence of spectral flux distributions corresponding to central stars of different spectral type on Earth-like exoplanets. We focus on the atmospheric responses related to surface habitability such as surface temperature, surface wind and precipitation. Preliminary results as well as a comparison with a 1D radiative-convective model will be presented.