meeting link

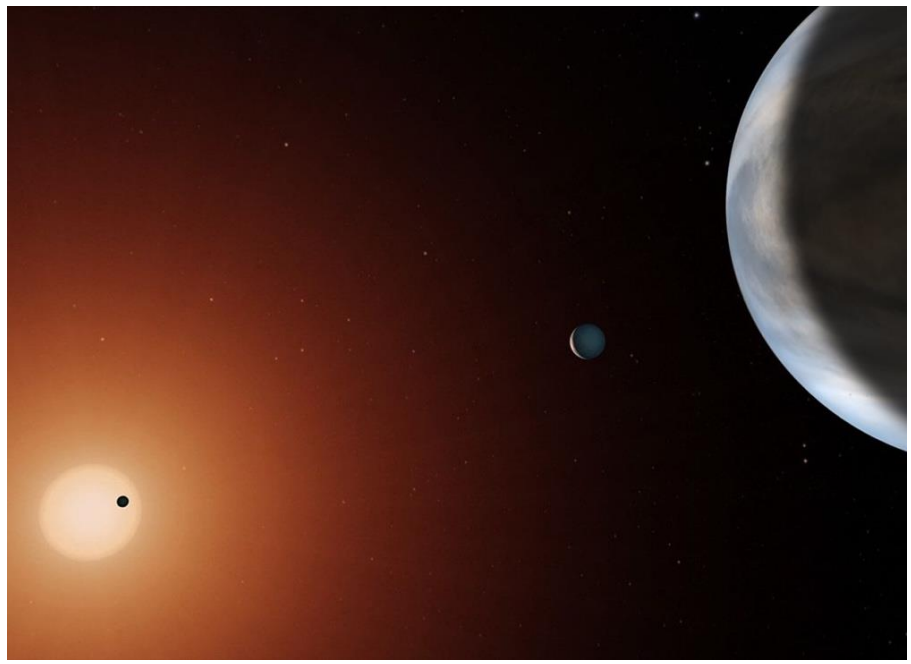
EARTH SYSTEMS SEMINARS

THE COSMIC SHORELINE IN THE TRAPPIST-1 PLANETARY SYSTEM

SIMULATING A MODERN VENUS-LIKE ATMOSPHERE AT VENUS AND SUB-VENUS STELLAR IRRADIATIONS.

WHAT'S THIS ABOUT?

Defining the cosmic shoreline, the orbital distance where rocky exoplanets can sustain long-lived secondary atmospheres, is a compelling question. High mean molecular weight secondary atmospheres, particularly CO2-dominated ones, offer the best resilience to escape processes. However, recent observations by the James Webb Space Telescope reveal that the second planet of the TRAPPIST-1 system, TRAPPIST-1c, does not have a Venus-like atmosphere, despite receiving similar stellar irradiation. We use a 3D GCM to simulate a cloudy, Venus-like atmosphere on TRAPPIST-1c, supporting observations, and expand this analysis to the third planet, TRAPPIST-1d, where tantalising new evidence suggests that an atmosphere might be lurking.



Diogo Quirino
(IA-FCUL)

December 03
Wednesday: 13h00
in IDL library (C1) or online
Teams Meeting ID: 347 677 275 084 0
Passcode: HS6Yg2Cz

calendar link

INSTITUTO DOM LUIZ
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