

A game of planetary consequences

An exercise in modelling planet formation and evolution

Perform the following integrations to arrive at your planet's history:

1. A star is born – t_{universe} , $R_{\text{galactic center}}$, M_* , $[\text{Fe}/\text{H}]$, SN input...
2. Your planet coalesces – a , M_p , R_p , Moons, composition, planetary companions, rotation period...
3. Climatic conditions – atmosphere, oceans (water, magma), ice caps...
4. Geological history – how long, giant impact(s), orbital perturbations, emergence of life, atmospheric evolution...

Trappist-1f

Image credit: Nasa/JPL-Caltech