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Connecting Habitability and Exoplanets Observables

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The quantification of Planetary Habitability in terms of a number of Habitability indexes has been a main focus of many research efforts in the last decades. Those indexes have been correlated to variables such as the amount of insolation, the dry atmospheric pressure at ground, the chemical composition of atmosphere, etc. Often such studies do not give a direct relation between Habitability indexes and quantities which are easily measurable from astronomical observations such as: the differential extinction, the spectral extinction or the phase curves. This work is an attempt to connect Habitability indexes as defined in Silva et al. (2017), with a parameter more likely accessible for the observations, such as the number density of molecules projected on the stellar disk at transit or the depth of differential extinction introduced by the atmosphere.

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