



Constraining the stellar dissipation factor by simulating tidal interactions

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Very close-in extrasolar planets ($a < 0.1$ AU) are subject to strong tidal interactions with their host star. The effect of tidal interactions on the orbital parameters of close-in extrasolar planets may give clues on the inner structure of the stars. The magnitude of tidal interactions depends on the ratio of the stellar dissipation factor and the stellar Love number. Different theoretical predictions and considerations provide values covering five orders of magnitude.

By simulating the evolution of the planetary system into the past and into the future, it is possible to constrain the ratio of the stellar dissipation factor and the stellar Love number within a range of two orders of magnitudes. This will be presented by using the OGLE-TR-56 system as an example.