Geophysical Research Abstracts, Vol. 7, 07670, 2005
SRef-ID: 1607-7962/gra/EGU05-A-07670

New results on tidal interactions of close-in extrasolar planets

L. Carone (1), M. Pätzold (1) and Heike Rauer (2)

(1) University of Cologne, Institute of Geophysics and Meteorology, Albertus-Magnus-Platz, Cologne (paetzold@geo.uni-koeln.de), (2) Deutsches Zentrum für Luft- und Raumfahrt, Institute of Planetary Research, Rutherfordstr. 2, Berlin

Very close-in extrasolar planets are from a geophysical point of view very interesting since they 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 even give us new clues on the inner structure of their host stars.

Taking OGLE-TR-56 b, OGLE-TR-113b, OGLE-TR-132 b and Tau-Bootis b as examples we shall demonstrate how extrapolation of the planetary system parameters into the past helps to constrain the tidal dissipation factor and love number for G, K and F stars; parameters not very well known for these stars. These results are compared with values derived for the Sun and give us insights on the stability of the planetary systems in the future.