

ON THE EVOLUTION OF TWO PLANETS EMBEDDED IN A GASEOUS DISC

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We study the orbital migration of two Earth-like planets tidally induced by the disc. For such low mass planets the disc undergoes small linear perturbations resulting in a rapid migration rate. It is expected that the planets will migrate at different speeds and finally will be locked in a mean motion resonance. There are already few examples of celestial bodies exhibiting mean motion resonances both in the solar system and outside: Neptune and Pluto, Io, Ganymede and Europa, Gliese 876, HD 82943 and 55 Cancri. Till now, for obvious reasons, most of the investigations have been focused on giant planets. With increasing sensitivity and longer time scales of performed observations, with COROT, SIM, Darwin and Terrestrial Planet Finder coming to the stage it is time to have a closer look at the Earth-like planets. We show how a differential migration of two planets can lead to a resonance trapping between the two planets and how their eccentricities evolve in time.