EPSC Abstracts
Vol. 11, EPSC2017-438, 2017
European Planetary Science Congress 2017
© Author(s) 2017

The formation of mini-Neptunes

J. Venturibi (1), R. Helled (1)
(1) Institute of Computational Physics (julia@physik.uzh.ch)

Abstract

The results of the Kepler mission show that planets smaller than Neptune ("mini-Neptunes"), presumably composed of non-negligible amounts of hydrogen and helium, are frequent. The formation of this type of objects is in principle challenging for the classical core-accretion paradigm of giant planet formation. We show that mini-Neptunes are a common outcome when including the effect of envelope enrichment by icy planetesimals/pebbles in the formation models. We will discuss as well the planetary composition/ structure, and the implications for the interpretation of exoplanet observations.