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**The Super-Earths and their Challenge to Planet Formation Theories**

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The Kepler-detected population of Super-Earth mass planets on compact orbits,  $\sim 0.1$  AU, around their host stars present a major challenge to planet formation theories. I review the properties of these planetary systems, discuss why they are so difficult to reconcile with standard formation models, and present some new ideas about in situ formation that may help resolve the problem.