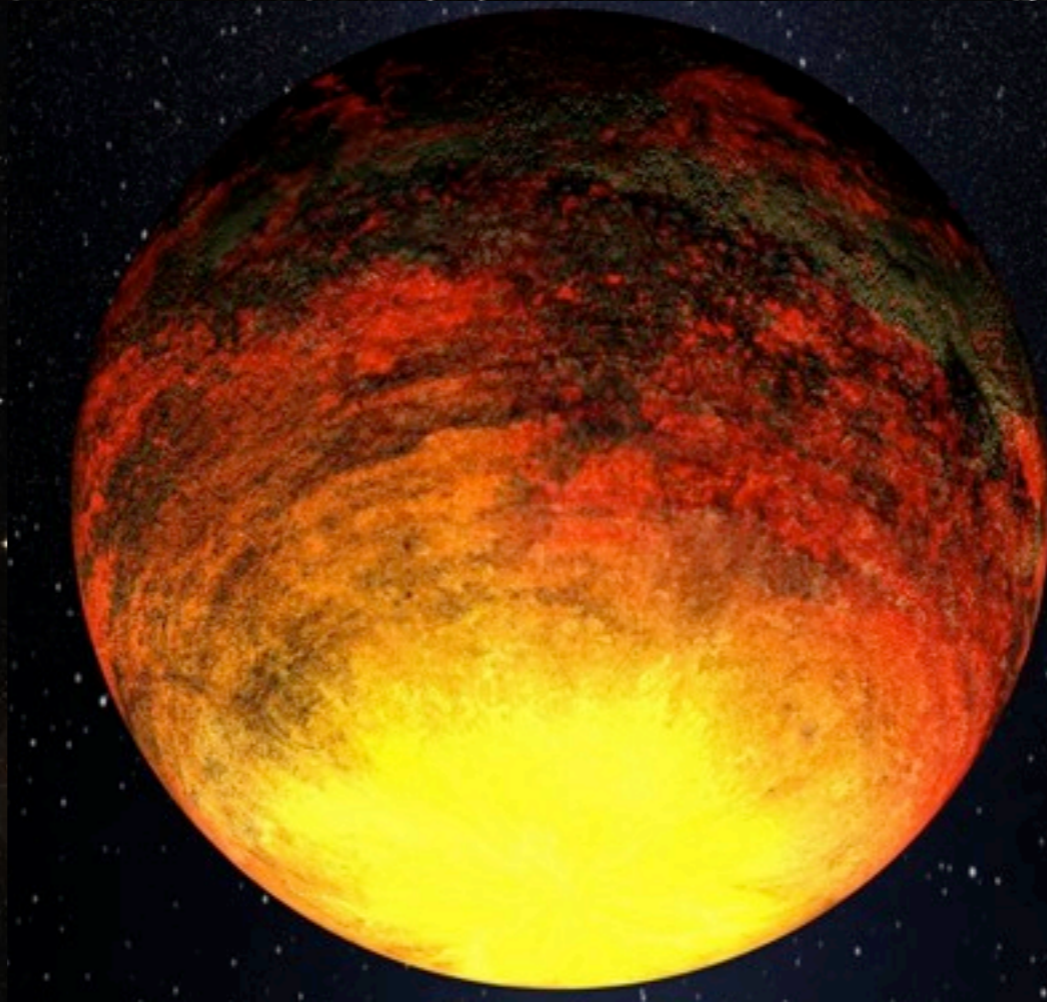
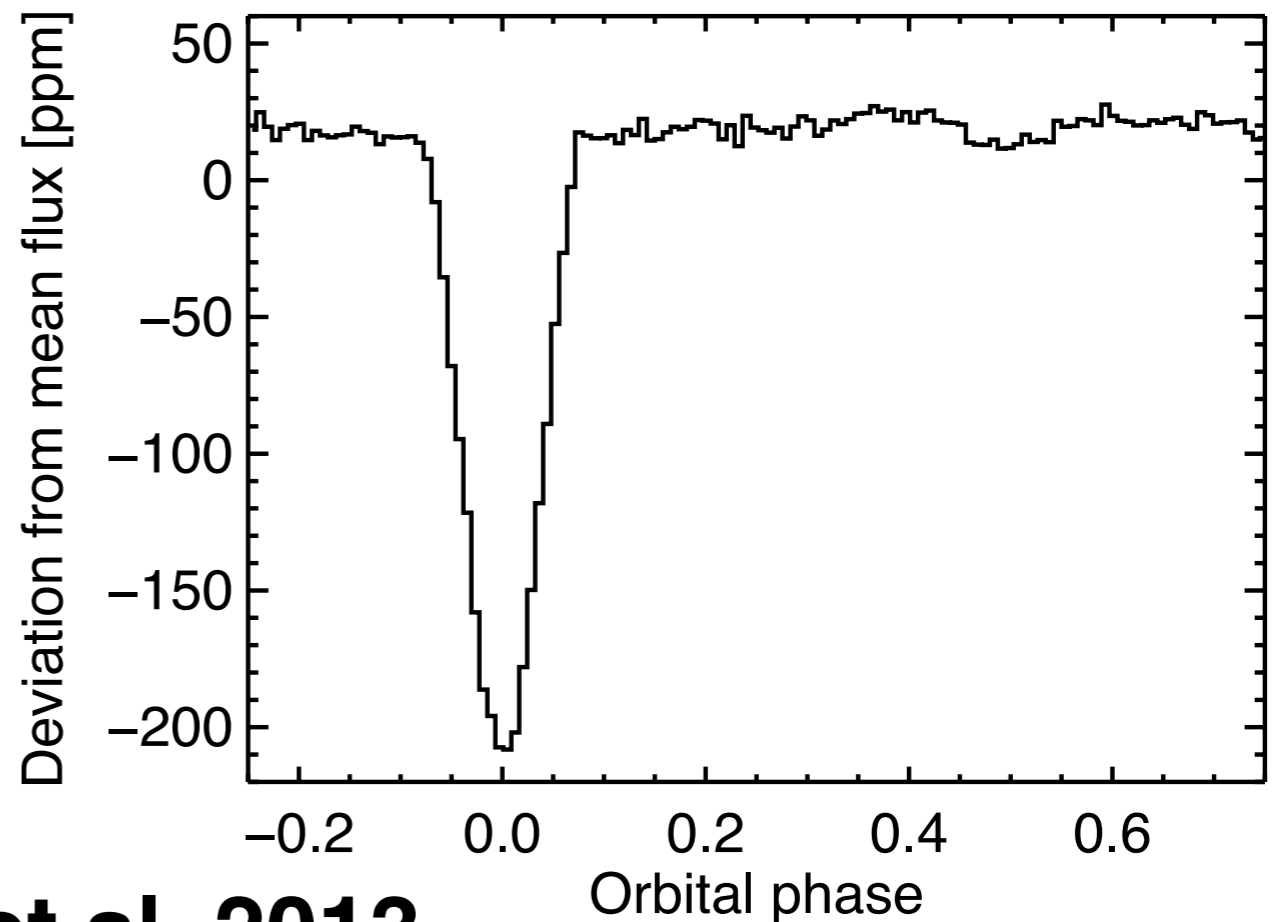
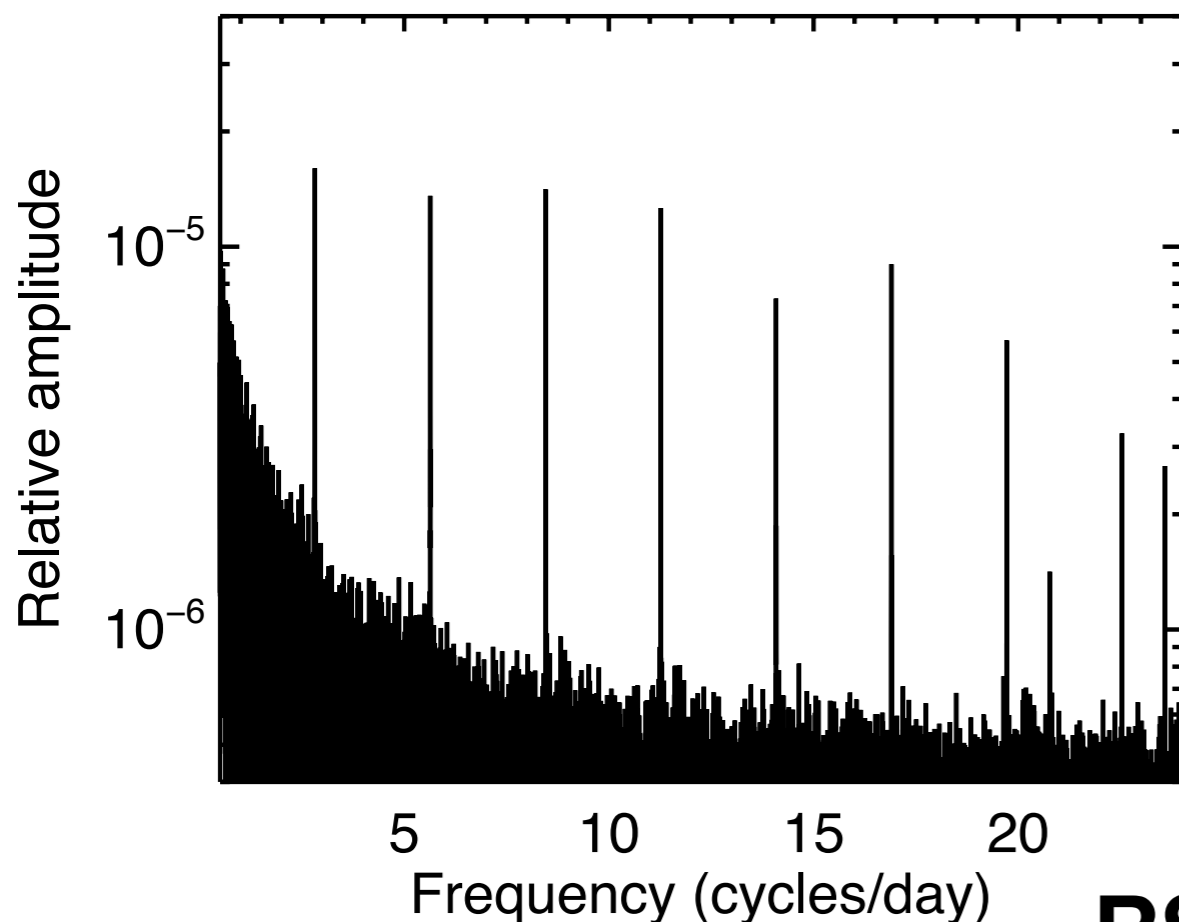


The Shortest-Period planets

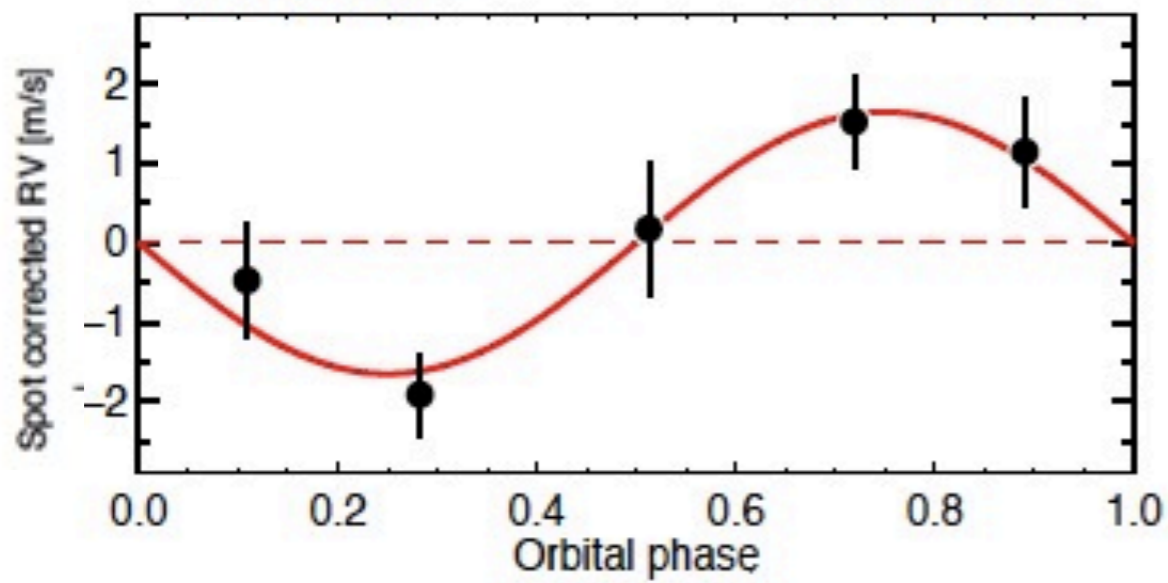


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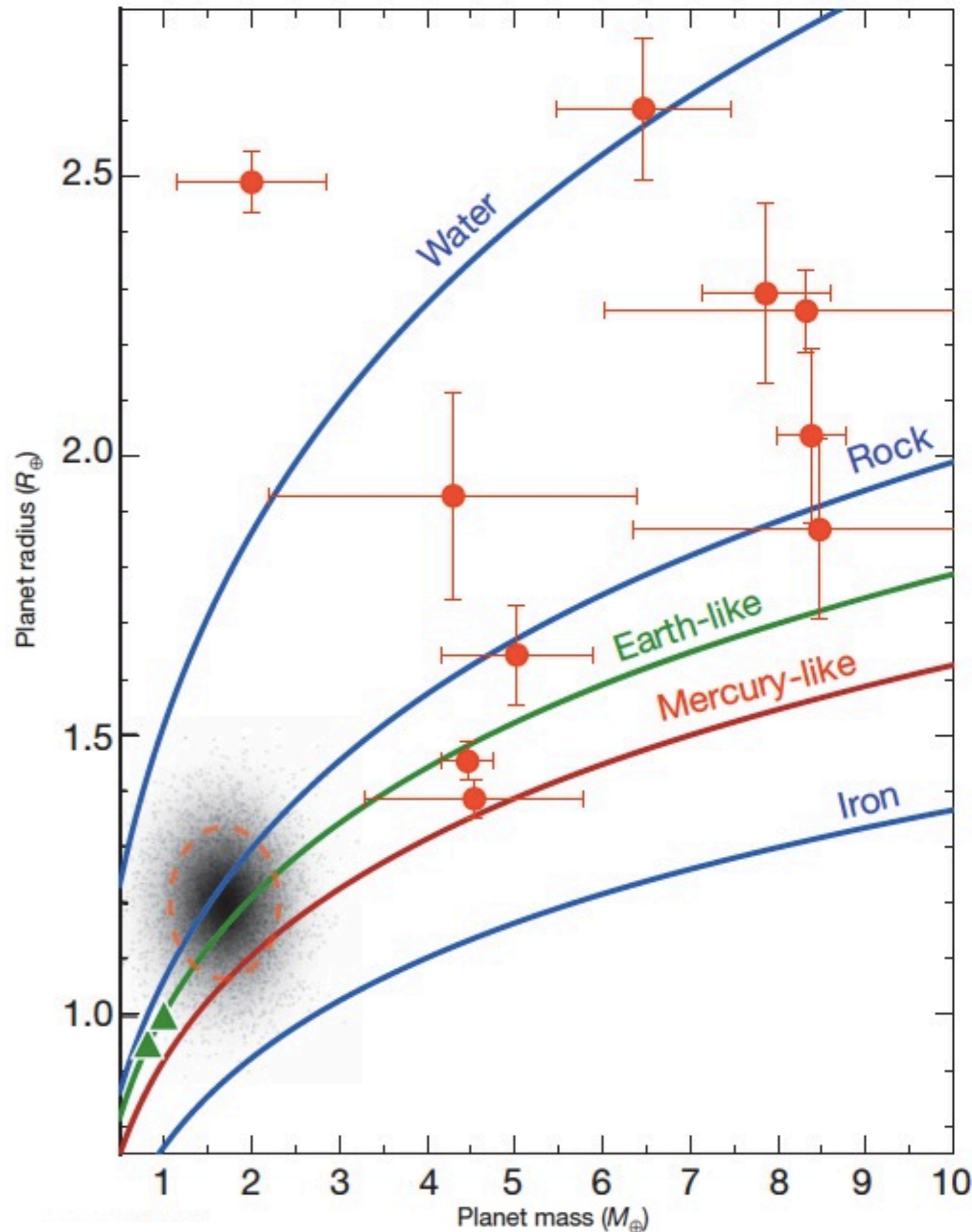
Thanks to space telescopes like CoRoT and Kepler, the transit technique has allowed us to detect more planets than any other technique. With future missions like TESS and Plato, this trend is likely to continue. In the next few years I will focus on the detection and characterization of planets with very short orbital periods. As part of my PhD thesis, I have shown that most of these planets are either small Earths or super-Earths. Sometimes they can be the easiest planets to detect, because they transit their star very frequently, and a simple Fourier Transform can be used to detect them in a fast and efficient way.



RSO et al. 2013



Planets with orbital periods shorter than 1 day are so close to their host stars that radial velocity signals become detectable even for Earth-mass planets. This was the case for Kepler-78b, a 1.7 Earth mass, 1.2 Earth radius planet, with an orbital period of 8.5 hours.



Howard, RSO, et al. 2013

The Kepler telescope has allowed us to create a list of 100 planet candidates with orbital periods shorter than day. The plan is to measure the masses of the best candidates, and use them to constrain the planets' compositions.

If the new mission concept for Kepler, known as K2, is successful, it will provide another great opportunity to discover and characterize more of these planets in the near future. During the next few years I plan to be heavily involved on several K2 projects.

