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Testing planet formation from the end of planetary systems

In the recent years, we have started to populate the niche of planets revolving in close-in orbits around giant stars. In contrast to the large crop of hot-Jupiters around main-sequence stars, there was a clear lack of planets at similar orbital separations (< 0.5 AU) but orbiting stars that have already left the main-sequence. Several theories were proposed to explain this dessert (e.g., planet engulfment or early disruption in massive stars). However, the high photometric precision needed to find planets transiting giant stars and the focus of radial velocity surveys on main-sequence stars suggested that this lack could just be an observational bias. By using data from the prime Kepler mission, we have confirmed two planets in this regime (Kepler-91b and Kepler-432b) and we have preliminary confirmation for another five. Additionally, other teams have confirmed 3 more planets in this niche. So, we are starting to fill this gap with a growing population that will provide an observational test to theories of planet formation and early evolution (i.e., migration). In this poster I present the first attempt to extract conclusions of formation and evolution theories from the growing sample of close-in planets around giant stars.