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Title: Kepler Circumbinary Planets: Emerging Trends
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Abstract: Currently there are 7 confirmed Kepler circumbinary planets (CBPs), and an additional 7 more candidates. While still few in number, the sample
is now large enough that some intriguing trends are emerging:
1) Orbital periods of binary stars that host CBPs are larger than the mean Kepler eclipsing binary period. CBPs are not seen in short-period binaries – why not?
2) In 11 out of 13 cases the radius of the planet is less than R_Jupiter.
Larger planets are easier to find, so why is this so? 3) CBPs tend to orbit very close to their host stars. If the planets' periods were much smaller, they would experience instabilities due to dynamical interactions with the binary. Excluding the outer planets
of the Kepler-47 system, 8 of 11 systems have orbital periods within
a factor of 2 of the critical orbital period for stability. What is this telling us about CBP formation and orbit migration?
4) As a consequence of their close-in orbits, a surprisingly large ~25% of CBPs lie within the habitable zone.