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The Architecture of Circumbinary Systems

Circumbinary planets are a new and relatively unexplored subset of the current exoplanet population despite evidence that nearly half of stars are in multiple systems. We present results of our work studying the dynamical evolution of multi-planet circumbinary systems, including the impact of the central binary and varied planet populations. N-body simulations are used to investigate the stability and evolution of planetary systems, namely the effects of planet-planet and planet-star interactions on the structure of the final system. The study of circumbinary planets will have impacts on our understanding of binary star formation and planet formation in addition to informing our knowledge of the habitability of planets in binary systems.