

# DIAGRAMS OF STABILITY OF CIRCUMBINARY PLANETARY SYSTEMS

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The stability diagrams in the “pericentric distance – eccentricity” plane of initial data are built and analysed for Kepler-38, Kepler-47, and PH1. This completes a survey of stability of the known up to now circumbinary planetary systems, initiated by Popova and Shevchenko (ApJ, 769, 152, 2013), where the analysis was performed for Kepler-16, 34, and 35. In the diagrams, the planets appear to be “embedded” in the fractal chaos border; however, I make an attempt to measure the “distance” to the chaos border in a physically consistent way. The obtained distances are compared to those given by the widely used numerical-experimental criterion by Holman and Wiegert (1999), who employed smooth polynomial approximations to describe the border. I identify the resonance cells, hosting the planets.

Results of this study will appear in Proceedings of IAU Symposium 310 “Complex planetary systems”.