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**Title:** “*Lidov-Kozai resonance in triple star systems*”

**Abstract.** About half of the Sun-like stars are part of multiple star systems. Many of them have an orbital period of a few days only. Our work focuses on the Lidov-Kozai tidal migration mechanism and aims to understand which dynamical effects are the most active in the accumulation of stellar companions with short orbital periods in binary star systems. Our framework is the hierarchical three-body problem (octupole), with the effects of tides, stellar oblateness, general relativity and spin down for the host star. Both the orbital evolution and the spin evolution are considered. Using orbital and physical parameters for the stars consistent with current observations, we perform 100 000 numerical simulations of well diversified triple star systems, and compare our results to Fabrycky & Tremaine (2007) and Naoz & Fabrycky (2014). We show that the final distribution of the final systems is very dependent on the initial parameters of the simulations. A similar study is finally realized for Hot Jupiters in binary systems, where the debate about the possible formation mechanisms (disc-planet interactions, planet-planet scattering and Lidov-Kozai migration) of such planets is very intense.

Joint work with A.-S. Libert & A. Correia.