

Resonances and Chaos in EMRI Dynamics

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Extreme mass ratio inspirals (EMRIs) are one of primary targets of space-borne gravitational wave detectors like LISA. Due to the long inspiral time and the large accumulated orbital phase of EMRIs in the LISA sensitive band, EMRIs are ideal tools for testing the fundamental laws of gravity. Many previous studies have pointed out possible chaos of EMRI dynamics in non-GR gravity or non-Kerr spacetime. In this talk, I will point out that resonances have often been mistaken as chaos previously, explain how to distinguish chaos from resonances and how to incorporate them into EMRI waveform modeling.

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