“An analytical approach to eccentric binary mergers”

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Binary black holes in hierarchical triples, potentially abundant in globular clusters and galactic nuclei, could show up in LIGO and future gravitational wave detectors with observably large eccentricity. Measuring the eccentricity distribution accurately could help us better understand the background and the formation of the mergers. In this talk, I describe a semi-analytical description of eccentricity distribution of mergers in galactic nuclei and other hierarchical triple systems. The result could be useful for statistically distinguishing different formation channels of observed binary mergers, and also further reduces the reliance on numerical simulations.