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Applied Black Hole Dynamics: Transients from Galactic Nuclei

Tuesday, December 12, 2023 9:30 AM (50 minutes)

Galactic nuclei are the densest stellar environments in the Universe, and their gravitational blenders produce frequent close encounters between combinations of stars and compact objects. These encounters, in turn, lead to a wide variety of transients. Some of these transients are electromagnetically luminous, such as tidal disruption events, quasi-periodic eruptions, and stellar collisions. Others are gravitational wave sources, such as extreme mass ratio inspirals or binary black hole mergers. I will review the different types of transients – both electromagnetic and gravitational wave – produced by stellar dynamics in galactic nuclei, with an emphasis on possible multimessenger signals.

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