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Gravitational wave signals from transitions of Gravitational atoms in Black Hole Binaries

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Superradiance offers a unique link between particle and black hole physics. Through this process, a cloud of light particles can build up around a spinning black hole that resembles the hydrogen atom. If the black hole is part of a binary system, the cloud can be disrupted and the particles transition from one state of the atom to another. In this talk, I will analyze a new gravitational signal that originates from the time dependent quadrupole moments of the gravitational atom and discuss observational prospects with the future space-based interferometer LISA.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

Author: KYRIAZIS, Antonios (University of Florida)

Co-authors: Dr YANG, Fengwei (University of Florida); Dr SEONG, Hyeonseok (DESY)

Presenter: KYRIAZIS, Antonios (University of Florida)

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