

# Fundamental oscillation modes of self-interacting bosonic dark stars

*Saturday, 29 June 2019 11:00 (30)*

We perform a detailed analysis of the fundamental f-mode frequencies and damping times of nonrotating stellar-mass boson stars in general relativity by solving the nonradial perturbation equations. Two parameters which govern the microscopic properties of the bosonic condensates, namely the self-coupling strength and the mass of the scalar particle, are explored. These two quantities characterize oscillations of boson stars. Specifically, we reexamine some empirical relations that describe the f-mode parameters in terms of the mass and radius of boson stars.

**Presenter(s) :** ☒☒, ☒ (☒☒☒☒)

**Session Classification :** Morning sessions