Contribution ID: **828** Type: **Talk in the parallel session**

Scalar absorption: Black holes versus wormholes

Wednesday, 7 July 2021 08:45 (15 minutes)

We study the absorption of massless scalar waves in a geometry that interpolates between the Schwarzschild solution and a wormhole that belongs to the Morris-Thorne class of solutions. In the middle of the interpolation branch, this geometry describes a regular black hole. We use the partial wave approach to compute the scalar absorption cross section in this geometry. Our results show that black holes and wormholes present distinctive absorption spectra. We conclude, for instance, that the wormhole results are characterized by the existence of quasibound states which generate Breit-Wigner-like resonances in the absorption spectrum.

Primary authors: DUARTE LIMA JUNIOR, Haroldo Cilas (Universidade Federal do Pará); Prof. LOUREIRO BENONE, Carolina (Universidade Federal do Pará); CRISPINO, Luís C B (Universidade Federal do Pará, Amazonia)

Presenter: DUARTE LIMA JUNIOR, Haroldo Cilas (Universidade Federal do Pará)

Session Classification: Wormholes, Energy Conditions and Time Machines

Track Classification: Alternative Theories: Wormholes, Energy Conditions and Time Machines