Contribution ID: **91** Type: **not specified**

# Analyses of QPOs in the background of deformed compact object

*Wednesday, 14 June 2023 17:00 (15 minutes)*

Many Galactic black holes and neutron stars sources in Low-Mass X-Ray Binaries (LMXBs) exhibit quasi-periodic oscillations (QPOs) in the observed X-ray fluxes in their peaks. There are models of high frequency QPOs (HF QPOs) that relate this oscillatory motion to the properties of accretion disk formed in the vicinity of a compact object. Our interest is the study this phenomena in the black holes systems, since this HF QPO peaks are usually detected for a given source at constant frequencies ratio of small natural numbers, typically in a $3:2$ ratio. In this work, we are considering a static and axially symmetric spacetime parametrized by a quadrupole and analyses the interplay between different parameters in this setup considering various HF QPO models.

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**Session Classification:** Wednesday afternoon session