Contribution ID: **12** Type: **not specified**

A. Maselli: Quasi normal mode spectroscopy beyond Kerr: agnostic vs theory based tests with 3G detectors (WP3)

Tuesday, June 6, 2023 9:40 AM (40 minutes)

Black-hole spectroscopy is one of the most promising tools to test gravity in extreme regimes and to probe the nature of black holes. However, tests based on ringdown observations are currently limited by the lack of parametrization that are both robust and accurate, able to capture generic modifications of the Kerr spectrum. In this talk I will present a new observable-based parametrization of the ringdown of spinning black holes beyond general relativity, ParSpec, and its application to future detections by 3G interferometers. I will discuss projected measurements on the ringdown parameters, and how to map such agnostic constraints on bounds on the fundamental couplings of
modified theories of gravity. Finally I will exploit ParSpec to discuss generic limitations of ringdown tests.