



Contribution ID: 582

Type: **Plenary talk**

Electromagnetic-gravitational perturbations of Kerr-Newman black holes

Thursday, 11 July 2024 17:30 (30 minutes)

Black hole solutions in General Relativity are parametrized by their mass, spin and charge. In this talk, I will motivate why the charge of black holes adds interesting dynamics to solutions of the Einstein equation thanks to the interaction between gravitational and electromagnetic radiation. Such radiations are solutions of a system of coupled wave equations with a symmetric structure which allows to define a combined energy-momentum tensor for the system. Finally, I will show how this physical-space approach is resolute in the most general case of Kerr-Newman black hole, where the interaction between the radiations prevents the separability in modes.

Presenter: GIORGI, Elena (Columbia University)

Session Classification: The largest energy BDHNS and their electrodynamical inner engine