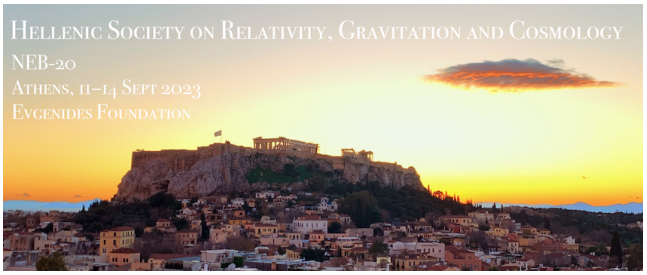

Contribution ID: **83** Type: **not specified**

Rotating black holes embedded in a cosmological background for scalar-tensor theories

Thursday, 14 September 2023 12:00 (30 minutes)

I will present solutions of DHOST theories describing a rotating black hole embedded in an expanding universe. The solution is constructed by conformal transformation of a stealth Kerr(-de Sitter) black hole. The conformal factor depends explicitly on the scalar field - but not on its derivative - and defines the new theory. The scalar field of the stealth Kerr(-de Sitter) solution depends on time, leading to the time-dependence of the obtained conformal metric, with cosmological asymptotics at large distances. I will discuss the properties of the obtained metric by considering regular null geodesic congruences, and identify trapping black hole and cosmological horizons.

Presenter: BABICHEV, Eugeny

Session Classification: Keynote