Contribution ID: 18

Accretion onto compact objects described by the Reissner-Nordström spacetime

Tuesday, 6 May 2025 17:00 (15 minutes)

We performed the first simulations of accretion onto the compact objects in the Reissner-Nordström (RN) space-time. The results could not be more different for the two cases. For a black hole, just as in the familiar Kerr case, matter overflowing the cusp plunges into the black hole horizon. For the naked singularity, the accreting matter forms an inner structure of toroidal topology and leaves the system via powerful outflows. The results obtained in general relativity are representative of those for spherically symmetric naked singularities and black holes in a number of modified gravity theories.

Primary author: KRAJEWSKI, Tomasz (Institute of Fundamental Technological Research PAS)
Presenter: KRAJEWSKI, Tomasz (Institute of Fundamental Technological Research PAS)
Session Classification: Tuesday afternoon

Track Classification: Black holes