

Spanish and Portuguese Relativity Meeting



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Black holes in Lorentz-violating Gravity

Wednesday, July 24, 2024 5:30 PM (15 minutes)

I will discuss black holes in the context of Einstein–aether and khronometric gravity —two closely related alternative theories of gravity that allow violations of local Lorentz invariance. Since these theories admit faster-than-light propagation, metric horizons are generically permeable and it is not clear whether proper black holes can exist; surprisingly, in some cases they do, thanks to the appearance of a new kind of “universal” horizon. I will review past and recent results on the topic, with a particular emphasis on rotating solutions.

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