Dynamics of magnetized accretion disks around Yukawa black holes

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Abstract

The Yukawa black hole solution is a non-rotating black hole exact solution that appears when a certain class of f(R) theories of gravity is considered. This solution depends on three parameters (mass, length scale and strength of the modification) and it reduces to the standard Schwarzschild solution when the parameter controlling the strength of the modification is set to zero. In this talk, I will describe how the equilibrium configurations of thick accretion disks built on top of the metric are affected by the deviations from GR. After that, I will present new results on the time evolution of magnetized accretion disks around different Yukawa BH models.

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