

Cosmological coupling of black holes: theoretical issues and observational evidences

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Recently, a renewed interest has emerged towards the possibility that the mass of black holes grow with the expansion of the Universe. This issue was theoretically investigated almost century ago by McVittie but, since then, not much progress was done. However, the recent analysis of a class of elliptical galaxies have open again the possibility that the mass of supermassive black holes can grow with the cosmic expansion, and, in some models, even crucially contribute to the dark energy content. In this talk we review these issues and propose theoretical arguments that reinforce the existence of a cosmological coupling.

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