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TITULO: Hawking radiation as perceived by different observers

LUGAR: FACULTAD DE CIENCIAS FÍSICAS UCM

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ABSTRACT

Given a field vacuum state in a black hole spacetime, this state can be analysed in terms of how it is perceived (in terms of particle content) by different observers. This can be done by means of what we shall call an effective-temperature function. This function, under certain adiabatic condition, gives the temperature of the thermal radiation perceived by a particular observer following a certain trajectory. In this seminar, I will present the results found when using this temperature function with observers following different trajectories outside a Schwarzschild black hole. I will present also a general analytic expression for the function in this specific context, which depends only on the vacuum state choice and on local properties of the trajectory of the observer. These properties are its position, local velocity and proper acceleration. The physical image that emerges from all this analysis, which is rather rich and compelling, will be also discussed.