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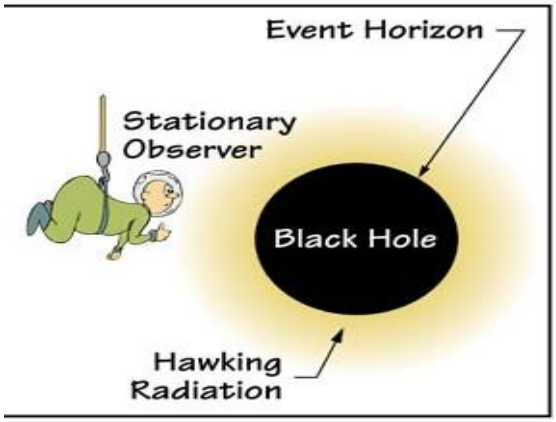

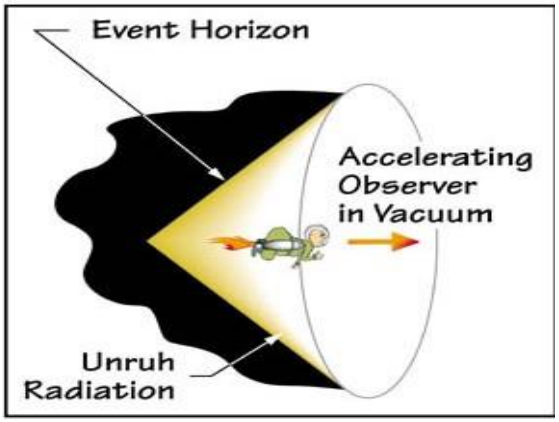

Krishnakanta Bhattacharya
IIT Guwahati & Fresno State Fulbright Scholar

Fluctuation-dissipation in accelerated frames

Abstract

From the pioneering work of Stephen Hawking, it is well known that a black hole looses its mass by photon emission – known popularly as Hawking radiation. These photons are thermal in nature and have non-zero temperature. Moreover, the discovery of Unruh radiation suggests that an accelerated observer perceives a Minkowski vacuum as a thermal bath as well. This latter discovery might sound astonishing, but it is direct outcome of Einstein's equivalence principal. The questions which naturally appear is what happens to a particle when it is immersed in these (Hawking and Unruh) radiation bathes? What might be the force that govern the dynamics of the test particle? What is the nature of the random force experienced by the particle? Is it of Brownian type? In this talk I will address these questions.

3:00 p.m. – 4:00 pm Friday, February 7th McLane 162