KMI-Theory Seminar

Tuesday, February 7, 2012

4:30 pm, KMI Science Symposia (ES-635)

"Hawking Radiation, Tunneling Method and Quantum Thermometers"

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Abstract:

After a short review of derivation of Hawking radiation by the tunneling method, a quantum field theoretical approach, in which a quantum probe is used to unveil the intrinsic temperature associated with stationary space-times with horizons is presented. The probe is identified with a conformally coupled massless scalar field defined on a space-time with horizon and the procedure to measure the local temperature is realized by the use of Unruh-DeWitt detector. Another proposal to determine local temperature, due to Buchholz is also considered.