United Nations Educational, Scientific and Cultural Organization

ICTP - East African Institute for Fundamental Research under the auspices of UNESCO

A First Look at the Black Hole Information Paradox

(SEMINARS)

February 19 & 21, 2019
16:00 – 17:30 HRS

Speaker:
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(INFN Padova & Parma Univ)

Black holes are regions of space-time in which the gravitational force is so strong that nothing—not even light—can escape from it. Einstein's general theory of relativity (GR) predicts that black holes arise from the deformation of space-time due to the presence of sufficiently large mass. The famous scientist Stephen Hawking showed that despite the strong gravitational force, radiation can escape from black holes. In these seminars, we will discuss basics in GR, we will give an elementary discussion of how and why black holes radiate, and why this phenomenon is in conflict with the laws of quantum mechanics. We will review Bekenstein's idea that black holes have entropy, and Hawking's computation of this entropy. Finally, we will look for some ways out of this paradox, showing that each of them is problematic.

The seminars are open to every person interested in understanding the universe. Science graduates (masters and doctoral levels) and enthusiasts will find it particularly useful. The seminars will take place at the ICTP-EAIFR in the top floor of the former "KIST2" building, CST, Nyarugenge Campus.

For further information: info@eaifr.org