



TOHOKU FORUM for CREATIVITY

Tohoku Forum for Creativity Thematic Program 2015

Fundamental Problems in Quantum Physics: Strings, Black Holes and Quantum Information

International Workshop on Strings, Black Holes and Quantum Information

Are firewalls really cataclysmic events?

Eduardo Martin-Martinez
(Perimeter)

Schedule:

Tuesday, September 8, 15:30-16:30

Place:

TOKYO ELECTRON House of Creativity 3F, Lecture Theater
Katahira Campus, Tohoku University

Abstract:

We will discuss how the presence of a firewall affects the information contained in the matter flow that crosses it. We will present an explicit calculation of the entanglement dynamics of a maximally entangled pair of Unruh-Dewitt detectors when one of the detectors traverses a Rindler firewall. We will show that the firewall effect is minor and does not wash out the detector-detector entanglement, in some regimes even preserving the entanglement better than plain Minkowski vacuum. The absence of cataclysmic events should continue to hold for young black hole firewalls. A firewall's prospective ability to resolve the information paradox must hence hinge on its detailed gravitational structure, presently poorly understood."