

JOINT TUFTS/MIT COSMOLOGY SEMINAR

Black Holes: Complementarity or Firewalls?

Joseph Polchinski
Santa Barbara

I argue that the following three widely believed statements cannot all be true: (i) Hawking radiation is in a pure state, (ii) the information carried by the radiation is emitted from the region near the horizon, with low energy effective field theory valid beyond some microscopic distance from the horizon, and (iii) the infalling observer encounters nothing unusual at the horizon. Perhaps the most conservative resolution is that the infalling observer burns up at the horizon. Alternatives would seem to require novel dynamics that nevertheless cause notable violations of semiclassical physics at macroscopic distances from the horizon.

Tuesday, September 25, 2012, 2:30 pm
Robinson Hall, Room 250
Tufts University

Refreshments at 2:00 in Knipp Library, Room 251