

Black Holes, Wormholes and Entanglement

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Abstract

It is thought that black holes can be viewed as ordinary quantum systems, as long as we look at them from the outside.

Black holes can have a variety of interior geometries depending on how they were formed. Surprisingly, one could have geometries that describe distant black holes which are connected through the interior. We will review the idea that these could be viewed as entangled states. We will also show that in some circumstances these wormholes can become traversable. Though they do not allow faster than light communication, they lead to interesting (theoretical) travel possibilities.