

Black Hole and Hawking Radiation

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A black hole is a space-time region where gravity is so strong that not even light can escape from it. The boundary of the space-time region is called the event horizon. This seems to imply that a black hole can only become heavier by absorbing nearby matter. However, Hawking showed that a black hole behaves as a thermal source if quantum effects are taken into account. The thermal radiation emitted quantum mechanically by a black hole is called Hawking radiation. The figure illustrates the formation of a black hole and its subsequent stage when it becomes thinner due to Hawking radiation.

