

Calculating the shadows of black holes

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Abstract:

If a black hole is seen against a backdrop of light sources, it shows a black disc, known as the “shadow” of the black hole, on the observer’s sky. For a spherically symmetric (Schwarzschild) black hole and for a rotating (Kerr) black hole the shape and the size of the shadow can be calculated analytically. In this talk I give an overview of how these calculations are done, and I discuss in detail the pictures that have been produced by the Event Horizon Telescope Collaboration of the supermassive black holes at the centre of the galaxy M87 and at the centre of our own Galaxy.



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