MAGIC

Science of the Cosmos

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Shadow Images of Schwarzschild Black Holes

Black holes are among the most extraordinary and intriguing objects in the Universe. Within the framework of General Relativity, one of the most well-established modern physical theories, the study of these objects can be carried out using the simplest solution, known as the Schwarzschild metric. This solution describes a static and spherically symmetric black hole, enabling the analysis of the gravitational influence of extremely massive bodies on the surrounding spacetime. We investigate the trajectories of photons emitted from an accretion disk toward an asymptotic observer. Subsequently, graphs are presented that illustrate the orbits of the photons, allowing the study of the paths they travel from the accretion disk to the observer. Additionally, we explore the shadows of a Schwarzschild black hole.

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