

Imaging super-massive black holes with the Event Horizon Telescope

The Event Horizon Telescope (EHT) is an international collaboration to build an Earth-size radio telescope with an aim to take the first-ever images of super-massive black holes located at the center of galaxies. The first imaging observations with the EHT have been conducted in 2017, and two years later, the EHT collaboration released the first images of the black hole at the center of the elliptical galaxy M87. Recently in 2022, the EHTC has presented the first images of the black hole at Milky Way's center, Sagittarius A*. Both images revealed ring-like structures with clear depression at the ring center. The central depression is interpreted as the shadow of black hole, which visibly confirms that even light cannot escape from a black hole. In this talk, I will summarize how these images have been obtained using radio interferometry technique combined with state-of-art imaging analyses and will also discuss the impact of the images on astrophysics.