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First Event Horizon Telescope results and future prospects

Monday 13 September 2021 16:00 (30 minutes)

The Event Horizon Telescope (EHT) is a millimeter VLBI array observing supermassive black holes. Its 2017 observing run led to the first images of a black hole shadow in M87, in total intensity and later in polarization as well. These data and images have allowed us to conduct a black hole mass measurement and a null hypothesis test of general relativity, and to put significant constraints on our general relativistic magnetohydrodynamics (GRMHD) model parameter space. In this talk, I will give an overview of the EHT observations and results, and provide an outlook into the future. Adding more stations to the array in strategic locations improves our image fidelity, dynamic range, and dynamical imaging capabilities. In particular, the Africa Millimetre Telescope (AMT), which is planned to be built on the Gamsberg in Namibia, could play a significant role as an extension of the EHT array in a unique geographical location. It will be especially valuable for observations of the Galactic Center black hole Sagittarius A*, which as a southern source is observable from southern Africa at a high elevation and for a large fraction of a VLBI observing run.

Abstract field

Author: Dr ISSAOUN, Sara (Radboud University)

Presenter: Dr ISSAOUN, Sara (Radboud University)

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