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Multi-messenger probes on dark matter surrounding a black hole

Thursday, 14 December 2023 16:45 (15 minutes)

The environment around the black hole can provide us a promising playground to study the dark matter properties because of the large dark matter density from accretion.

I will explore the multi-messenger probes on the dark matter in the vicinity of black holes. More concretely, I will discuss (1) the gravitational wave signals from a black hole binary whose dynamics is affected by the dark matter (2) the multi-wavelength signals covering the radio, optical and gamma rays arising from the dark matter annihilation.

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