Contribution ID: **421** Type: **Invited talk in the parallel session**

# Images and photon rings of accretion disks surrounding compact objects

*Tuesday, 6 July 2021 09:30 (20 minutes)*

The planet-size network of millimeter antennas Event Horizon Telescope (EHT) has recently delivered images of the surroundings of the supermassive compact object M87* at the center of the galaxy Messier 87. Such images are crucial to better understand the physics at play in a strong gravitational field environment. They might also allow to probe the extreme relativistic effects on the radiation emitted close to the compact object.

In this talk, I will present a simple semi-analytic model of the accretion flow surrounding M87* and discuss images of this flow. In particular, I will focus on the highly-lensed part of the image generally refered to as the « photon ring ». After providing a definition of this feature, I will discuss the prospect of using it as a probe of the underlying spacetime. I will also discuss how the highly-lensed part of the image changes when the compact object is not a black hole but a more exotic alternative object.

The final goal of my talk is to discuss to what extent can EHT-like images help constrain the nature of the compact objects at the center of M87 or our Milky Way.

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**Session Classification:** Gravitational Lensing and Shadows

**Track Classification:** Precision Tests: Gravitational Lensing and Shadows