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Determining the black hole spin of EHT sources

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The Event Horizon Telescope (EHT) has enabled horizon-scale imaging of supermassive black holes. However, constraining black hole spin remains a challenge, despite its importance for testing accretion physics, jet launching, and gravity. Therefore, it is worthwhile to investigate new methods for determining spin, particularly those that make minimal assumptions about the complex astrophysics surrounding the black hole. In this talk, I will present a novel method for constraining spin by utilizing hot spots —localized regions around the black hole that flare up and can appear multiple times in images when the hot spot is bright enough. I will also show some initial work on possible new spin dependencies found in MAD disks using GRMHD simulations.

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