# Accretion and flux eruption events in GRMHD simulations

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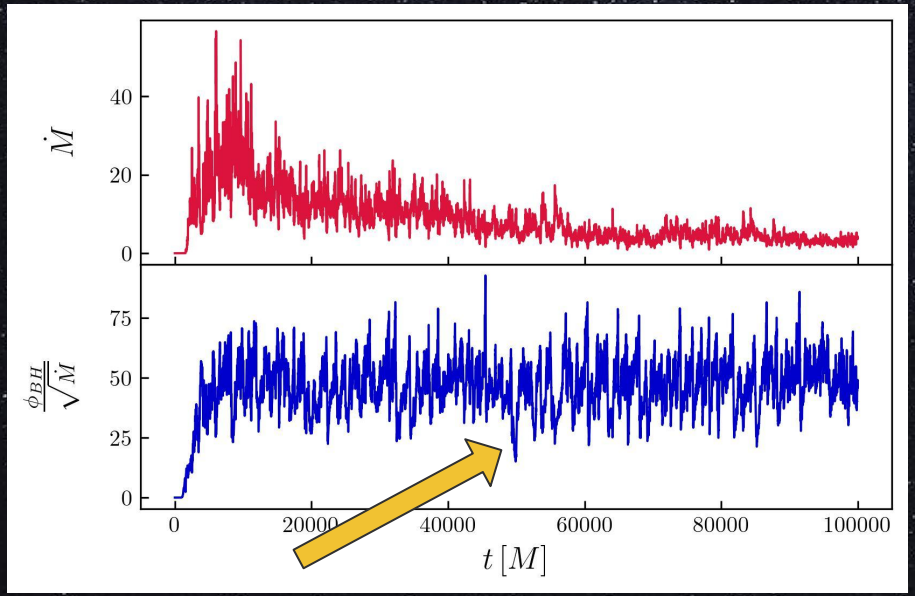
1. Flux eruption events occur quasiperiodically in Magnetically Arrested Disk simulations

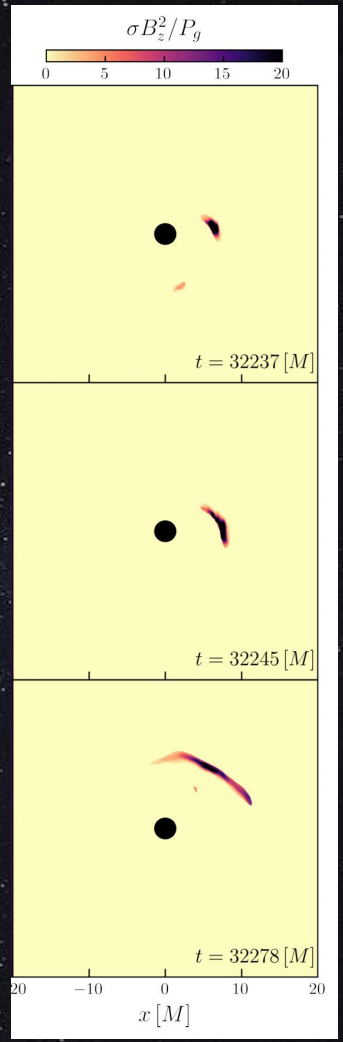
*Antonopoulou, Loules, Nathanail 2025*



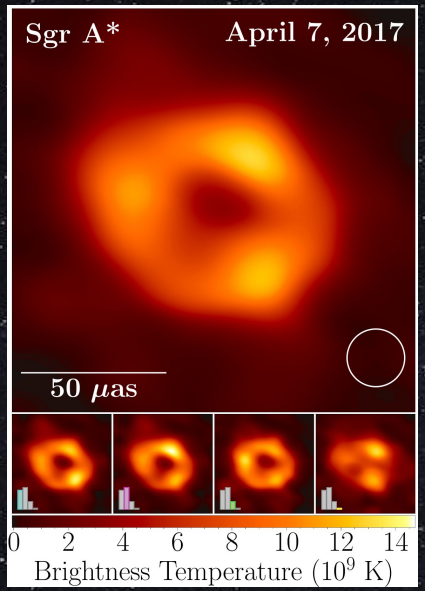

2. Active regions form on the disk's equatorial plane

- Significant magnetic field strength & High magnetization
- Outward motion & orbital rotation

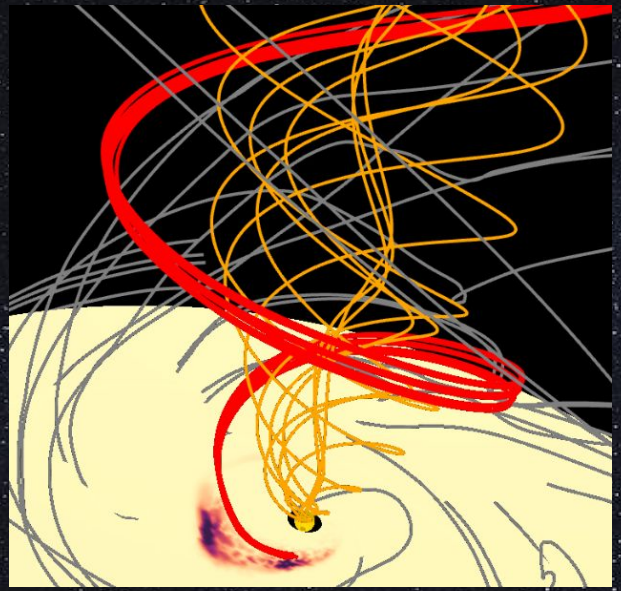
3. During prominent events, magnetized flux tubes and hot spots are generated within an active region



# Observations of energetic flares near supermassive black holes



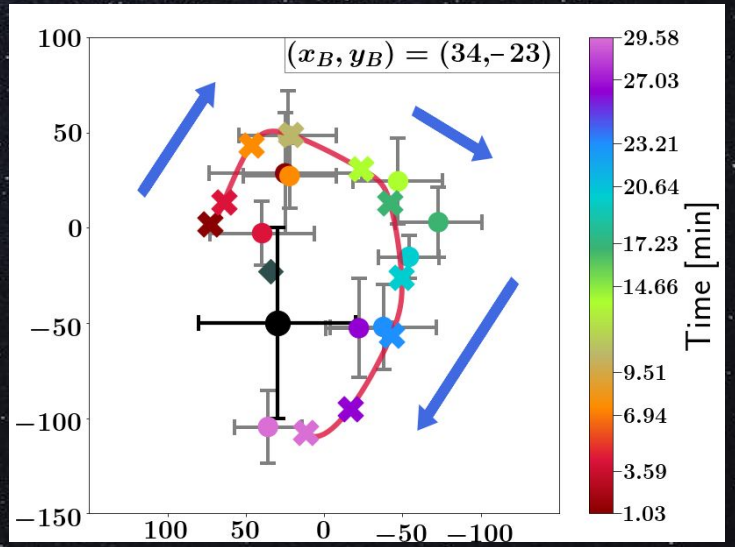

E.H.T. Collaboration 2022



4. Hot spots ejected along the magnetized flux tubes at relativistic velocities show *clockwise* motion in the sky

*Antonopoulou, Loules, Nathanail 2025*

*GRAVITY 2018 observations*




The Magnetically Arrested Disk accretion state provides a promising framework for reproducing the observed flares in the Galactic center and capturing the intricate characteristics of Sagittarius A*