

## **Spectral properties of accretion flows around rotating black holes**

Astrophysical black holes are remarkably simple objects that are fully characterized by just two parameters: mass and spin. While the mass of a black hole can be easily determined from its gravitational influence at large distances from the black hole, the determination of its spin is more challenging as it requires to probe the strong gravity region close to the black hole. The two-component advective flow (TCAF) solution provides a physically motivated description of accretion flows around black holes. In this picture, the accretion flow consists of a Keplerian disk surrounded by a sub-Keplerian flow that forms a hot, puffed-up region close to the black hole which inverse-Comptonizes the soft photons from the Keplerian disk to produce the observed hard X-ray emission. The TCAF solution has been successful in explaining every aspect of spectral and timing properties of accreting black holes. We study the effects of the black hole spin parameter on the spectral properties of accretion flows by incorporating an accurate pseudo-Kerr effective potential into the TCAF solution. This would facilitate the extraction of spin parameters of black hole candidates.