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Winds and jets from the hot disk around the black holes

Tuesday, 2 March 2021 15:00 (30 minutes)

We will discuss self-consistent accretion-ejection solutions in full general relativistic prescription around the black holes and predicated the possible origin of the high energy emissions in the BH sources, like, γ-rays and neutrinos. We have solved the jet equations of motion along the von Zeipel surfaces computed from the inner part of the hot accretion flow. Interestingly, we obtained many types of the jet solutions, for example, jet solutions with/without internal shock, and failed/bound jet solutions. The shocks in the jet can form for high Kerr spin parameter, $a_s > 0.6$ and jet terminal velocity also increases with the spin and energy of the accretion flow. We believed that the high energy radiations, neutrinos, and variabilities in the jets can be originated from the shocks in the jet as vindicated in the many observational and modeling studies.

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