Black hole accretion problem and its diverse manifestation

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Black holes are the most perfect Astrophysical objects and as such they must be studied with utmost respect towards the physical laws which govern the behaviour of matter around them. I find that to generally understand every observation of radiation emitting from matter infalling on a black hole, the basic equations and their solutions are enough. The correct solutions also give rise to many predictions and solve diverse problems such as formation of extreme mass ratio binaries and gravitational wave emission; generation of the magnetic field of the universe; correlation between spectral states and jet formation; quasi-periodic oscillations, spectral state transitions and so on. The transonic advective flow paradigm must be used in order to extract parameters through multi-messenger Astronomy.