

Abstract Submitted
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On the electron-positron cascade in AGN central engines ALEX FORD, BRETT KEENAN, MIKHAIL MEDVEDEV, Univ of Kansas — Processes around spinning supermassive black holes (BH) in active galactic nuclei (AGN) are believed to determine how relativistic jets are launched and how the BH energy is extracted. The key "ingredient" is the origin of plasma in BH magnetospheres. In order to explore the process of the electron-positron plasma production, we developed a numerical code which models a one-dimensional (along a magnetic field line) dynamics of the cascade. Our simulations show that plasma production is controlled by the spectrum of the ambient photon field, the B-field strength, the BH spin and mass. Implications of our results to the Galactic Center and AGNs are discussed.

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