

Kink Instability in Relativistic Jets

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The evolution of kink instability in a force-free, nonrotating jet of high magnetization has been studied using MHD and PIC simulations. The main dissipation mechanism is identified as reconnection of magnetic field lines and the dissipation rate is found to be consistent with the expansion velocity of the kink mode, which drives the reconnection. We present the implications for particle acceleration in astrophysical jets related to GRBs and AGNs.

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