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Time-dependent radiation signatures of relativistic reconnection in blazar jets

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Magnetic reconnection is one of the most promising mechanisms of dissipation and particle acceleration in relativistic jets of blazars. Magnetic reconnection is a complex physical phenomenon that by nature is very difficult for analytical and experimental studies. Rapid progress in understanding relativistic reconnection has been made over the past several years thanks to numerical kinetic plasma simulations. Of particular interest to the multiwavelength community of blazar observers is the capability of the kinetic particle-in-cell codes to incorporate the effects of radiation reaction on the energy distribution of particles, as well as to calculate time-dependent radiation signatures (synchrotron and inverse Compton) of particle acceleration in relativistic reconnection. I will discuss the latest simulation results and current limitations on making a direct connection between numerical predictions and observational data.

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