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Radiative Signatures of Diffusive Shock Acceleration in Blazar Jets

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Diffusive shock acceleration (DSA) at mildly relativistic shocks has been argued to be an efficient mechanism for the acceleration of ultrarelativistic particles blazar jets. Here we present results of coupled time-dependent simulations of diffusive shock acceleration and production of synchrotron and Compton emission to model the expected spectral variability signatures of shocks in blazar jets. Test cases for both extreme HBLs and low-frequency peaked blazars are presented, including predictions for multi-wavelength light curves, inter-band cross-correlations and multi-wavelength spectral hysteresis.

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