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The Blazar Sequence and Accretion Disk Winds.

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Adopting the hypothesis that the nonthermal emission of blazars is primarily due to the acceleration of electrons, we construct a simple leptonic model in order to explain the Blazar Sequence. The acceleration process is assumed to be of the first order Fermi type and the injected electrons and photons in the emitting region of the blazar are described by spatially averaged kinetic equations. According to the leptonic scenario, the spectral energy distributions of blazars have two basic components: a low frequency component, peaking in the optical through X-rays, from synchrotron emission; and a high frequency one, peaking in the γ rays, probably originating from Compton scattering of some seed photon source, either internal (synchrotron self-Compton) and/or external to the jet (external Compton). The origin of external photons is generally undetermined, attributed to BLR cloud emission. Motivated by recent works suggesting the presence of accretion disk winds with density profiles $n \propto 1/r$ and normalization proportional to $\dot{m}^2$(the normalized to Eddington mass flux in the wind), that allow the isotropization of the accretion disk photons over radii as large as $\sim$ 1 pc, we compute blazar SEDs for different values of $\dot{m}$. We find that the Blazar Sequence can then be represented adequately in terms of a single parameter, namely $\dot{m}$.

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