

Investigation of electron energy spectrum during solar flares

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Observations indicated that the energy spectrum of non-thermal particles during the evolution of solar flares changes rapidly, with the power index alternating from soft to hard, and soft again. Based on MHD numerical simulation of a flare with the typical prephase, impulsive, and decay phases, we perform the test-particle simulations in order to investigate the time evolution of the electron spectrum. The results are compared with observations in detail.