

Abstract Submitted  
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**Comparison of Electron Stochastic Acceleration Models with RHESSI Hard X-ray Observations of Solar Flares** PAOLO GRIGIS, ARNOLD BENZ, ETH Zurich, Switzerland — Acceleration of charged particles in a plasma by means of stochastic interactions with turbulent waves is very efficient and therefore is often invoked as the key mechanism acting in solar flare electron acceleration. We compare the photon spectra produced by electrons accelerated using the Transient Time Damping (TTD) mechanism with the detailed hard X-ray observations provided by RHESSI for footpoint and looptop sources, showing the soft-hard-soft behavior in the spectral evolution. The TTD model with a simple leaky box escape term fails to quantitatively match the observed spectral behavior, requiring too large variations in photon flux over the range of observed spectral indices. We discuss more realistic models and further modifications needed to reproduce the RHESSI observations.

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