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## **Electron re-acceleration in solar flare footpoints**

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**Abstract.** For many decades conventional wisdom has been that electrons are thought to be accelerated in the corona then travel down loops to the footpoints where they lose they collisionally heat the chromosphere and radiate Hard X-rays (Collisional Thick Target Model TTM - Brown 1971). Theoretical considerations, in the light of new observations from RHESSI and Hinode, are now challenging this assumption. Hinode's observations revealed a very dynamic and complex chromosphere, supporting theoretical ideas that flare footpoints may not simply be regions where injected fast electrons lose energy by collisions but may rather be involved in an ongoing acceleration process. We review evidence against the standard assumption and present our new Local Re-acceleration Thick Target Model (LRTTM) where in footpoints electrons undergo ongoing re-acceleration which offset collisional loses. The LRTTM offers an alternative to the 'standard' TTM model of solar heating and HXR sources, requiring far fewer electrons and solving some recent problems with the TTM interpretation. We look at the different scenarios which could lead to such re-acceleration and present numerical results from one of them.