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Structure of hard X-ray spectra in eruptive solar flares as a result of electron acceleration in current sheets and collapsing magnetic loops

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Problem of non-thermal hard X-ray spectra formation in eruptive solar flares is considered in the frame of electron acceleration during magnetic reconnection in quasi-vertical current sheets. Special attention is given to the hard X-ray spectra with a break. Role of an additional acceleration of electrons by the first-order Fermi and betatron mechanisms in collapsing magnetic loops in formation of the break is analyzed. A comparison with similar acceleration processes in the Earth's magnetotail is discussed.