

Abstract Submitted
for the DPP05 Meeting of
The American Physical Society

Reconstruction of the electron distribution function during magnetic reconnection events in the TCV tokamak¹ IGOR KLIMANOV, AMBROGIO FASOLI, TIMOTHY GOODMAN, LAURIE PORTE, CRPP, Swiss Federal Institute of Technology (EPFL), Association Euratom - Swiss Confederation — The sawtooth crash is a well known example of magnetic reconnection in tokamaks. Despite its importance, several aspects of the physics behind it are still under investigation. An important question is the modification of the charged particle distribution by the associated magnetic reconnection. Experiments have been performed on the TCV tokamak ($R=0.88$, $a=0.25$, $B_t=1.5$ T), which is equipped with 4.5 MW of ECH power (3MW - 2nd harmonic, 1.5 MW - 3rd). The main experimental observations have been made using the ECE diagnostic system, which includes two 24-channel radiometers, viewing the plasma from the high field side and the low field side simultaneously, overlapping in frequency. Spikes of non-thermal ECE associated with sawteeth have been observed in both auxiliary heated and ohmic discharges. An analysis of fast changes of the electron distribution function during the crash phase of the sawtooth instability will be presented.

¹Partly supported by the Swiss National Science Foundation

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Date submitted: 25 Jul 2005

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