

Abstract Submitted
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Suprathermal electron dynamics and hard X-ray tomography in TCV JOSEF KAMLEITNER, STEFANO CODA, École Polytechnique Fédérale de Lausanne (EPFL) - Centre de Recherches en Physique des Plasmas (CRPP), CH-1015 Lausanne, Switzerland, JOAN DECKER, CEA, IRFM, F-13108 Saint-Paul-lez-Durance, France — Theoretically predicted toroidal and poloidal emission asymmetries are observed by energy-resolved hard X-ray tomography (HXRS [1]) on the TCV tokamak. These bremsstrahlung measurements, in conjunction with Fokker-Planck modeling and synthetic diagnostics [2], characterize the suprathermal electron distribution during electron cyclotron resonance heating and current drive (ECRH, ECCD). The dynamics and the transport of suprathermal electrons in real and velocity space are studied, also with respect to quasilinear effects in EC wave absorption. Further new results are presented concerning the interaction of fast electrons with magnetohydrodynamics (MHD) instabilities, especially the $m/n=1/1$ internal kink, and including runaway electron creation and transport.

[1] S. Gnesin, S. Coda, J. Decker and Y. Peysson, Rev. Sci. Instrum. **79** (2008) 10

[2] Y. Peysson and J. Decker, Phys. Plasma **15** (2008) 092509

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