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Electron transport analysis in TCV W. HORTON, University of Texas at Austin, J.-H. KIM, University of Wisconsin at Madison, E. ASP, Chalmers University of Technology, Sweden, L. PORTE, S. ALBERTI, A. KARPUSHOV, Y. MARTIN, O. SAUTER, G. TURRI, EPFL CRPP, Switzerland, THE TCV TEAM — A TCV plasma with high power density (up to 8MW/mcore deposited ECR heating at significant plasma densities ($\leq 7 \times 10^{19}$ m^{-3}) is analyzed for the electron thermal transport. The discharge has four distinct high confinement mode (H-mode) phases, an ohmic H-mode with type III edge localized modes (ELMs), a type I ELMy H-mode with the ECRH on, two quasi-stationary ELM-free H-modes, one of which without magneto-hydrodynamics (MHD) and one with. For all four phases both large-scale TEM and ITG modes and small-scale ETG modes are analyzed. For easy comparison of the results, a dimensionless error measure, the so-called average relative variance (ARV) is introduced. According to this method the ETG model explains 70% of the variation in the electron heat diffusivity whereas the predictive capabilities of the TEM-ITG models are poor. These results for TCV support the conclusion that the ETG model is able to explain a wide range of anomalous electron transport data, in addition to existing evidence from ASDEX, Tore Supra and FTU.

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