

ETG MODELLING OF A TCV MULTI-PHASE H-MODE SHOT

E. Asp¹, J. Kim², W. Horton², L. Porte¹, S. Alberti¹, E. Fable¹, Y. Martin¹, O. Sauter¹, G. Turri¹ and the TCV Team

TCV is well suited for electron transport studies due to its well developed ECRH system. Ion heating can be achieved through thermal equilibration in high density plasmas in combination with strong third harmonic X-mode (X3) ECRH heating. In TCV shot 29892, X3 heating was applied to an ohmic ELMy H-mode, either at full or modulated power. In total, this shot comprises four different stationary H-mode phases, one ohmic followed by three ELMy or ELM-free X3 heated. The final two are similar to improved H-modes. Previous analysis with the GLF model suggested the discharge to be ITG dominated, in accordance with a preliminary Weiland stability analysis. Since the applied heating only affects the electrons it is important to analyze this discharge with respect to ETG and/or TEM modes. The ETG turbulence calculated with the IFS ETG model will be presented.

¹Ecole Polytechnique Fédérale de Lausanne, Centre de Recherches en Physique des Plasmas, Association Euratom Confédération Suisse, 1015 Lausanne, Switzerland.

²Institute for Fusion Studies, University of Texas Austin, Austin, Texas 78712, United States