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Nonlinear magnetic reconnection analysis and effective longitudinal electron thermal conductivity¹ DARIO BORGOGNO, DANIELA GRASSO, CNR-ISC Institute for Complex Systems and Politecnico di Torino, BRUNO COPPI, Massachusetts Institute for Technology — Since the onset of magnetic islands on rational surfaces can affect the effective longitudinal electron thermal conductivity, a non linear two-fluid model has been derived for the analysis of modes producing magnetic reconnection including the pressure gradient contribution to the longitudinal electron momentum conservation equation. Numerical solutions of the model, reproducing results obtained from the linear analysis starting from a one dimensional plane geometry ¹, are presented. ¹ B. Coppi, B. Basu et al. Nucl. Fusion (2019)

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