Experimental studies in support of equilibria calculations during AC transition in the ISTTOK tokamak (EX/P1-2)

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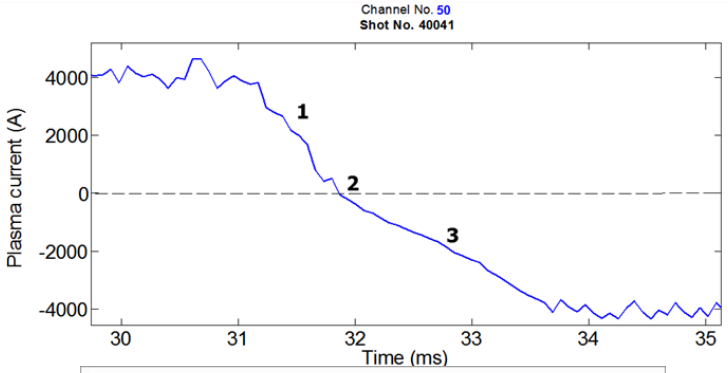
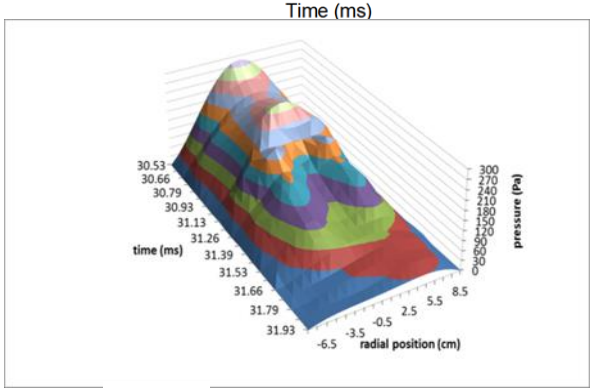
1 – Ramp down 2 – Transition (@ Ip ~0) 3 – Ramp up

Experimental charaterisation of the 3 phases of AC transition



Comparison of experimental pressure-like profiles evolution with results from numerical solutions of the GS equation during AC transition. The predicted features are not observed.



Ip=0

The experiments could suggest a different mechanism for explaining existence of quiescent plasma during Ip=0: Overshoot fast electrons from the positive semi-cycle can propagate into the negative semi-cycle (for <100 μs) and generate seed electrons for negative current formation