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HHFW Heating Results for Low Current H-modes (XP-1009)

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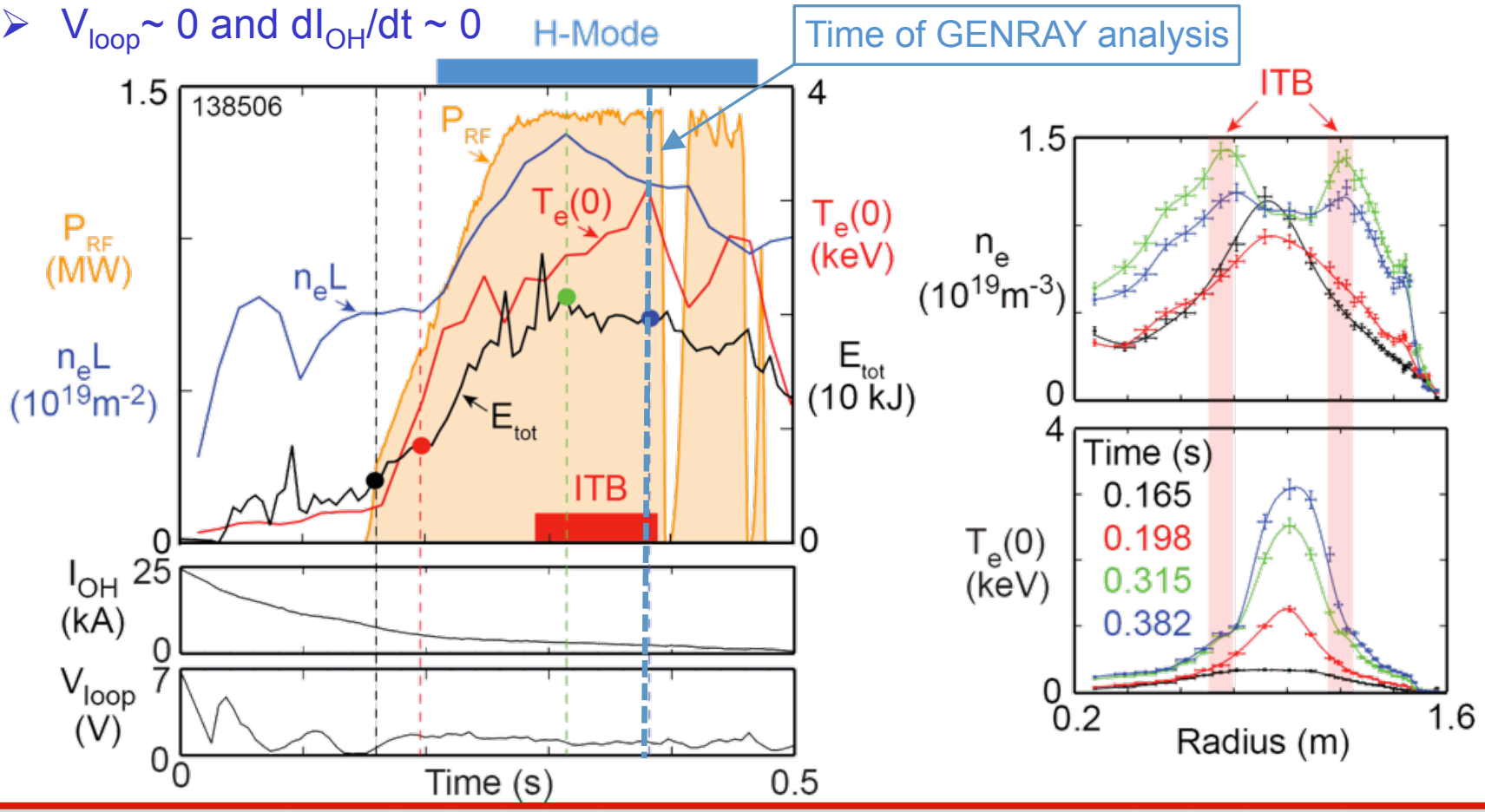
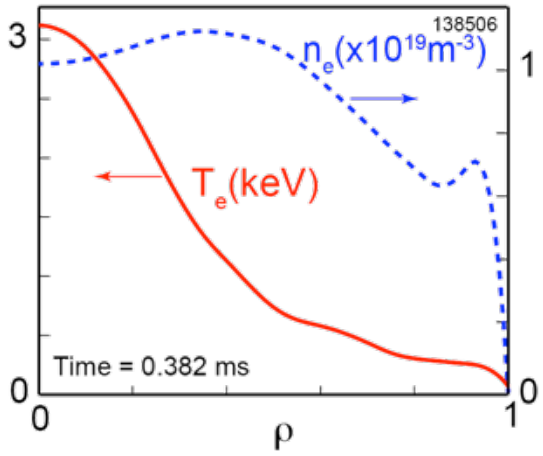
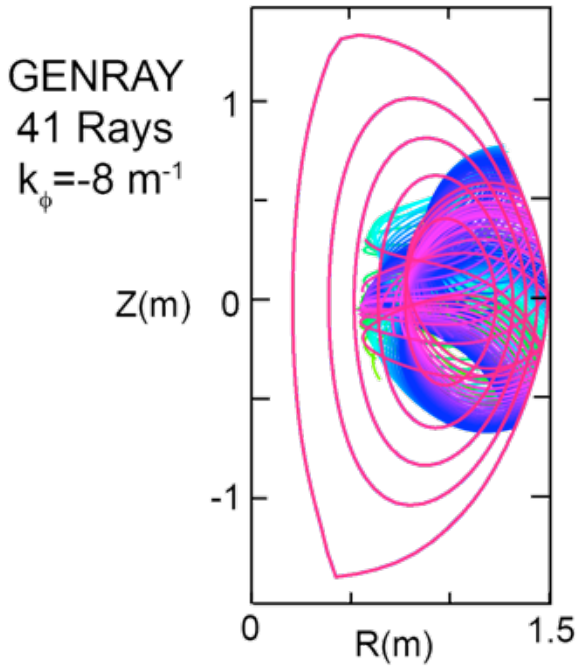
Some progress in sustaining HHFW heating during low I_p (~300 kA) RF-only H-mode plasma, but P_{rf} only ~ 1.4 MW

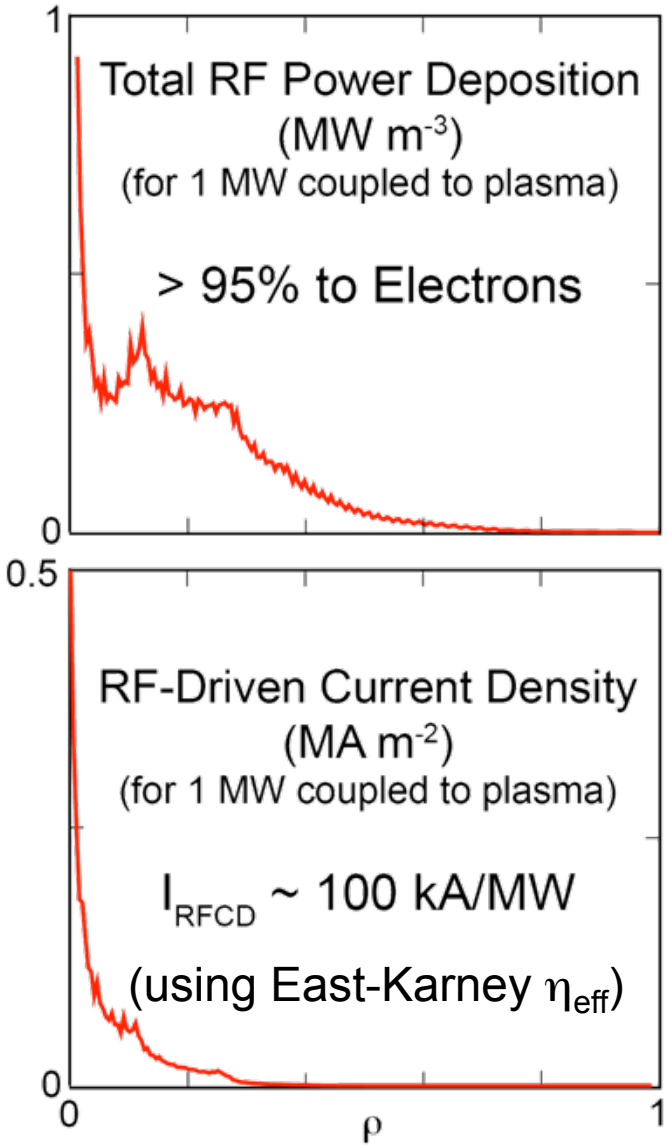
- Low I_p HHFW experiments in 2005 could not maintain P_{RF} during H-mode
- This year generated sustained RF H-mode with internal transport barrier (ITB)
  - Better plasma-antenna gap control than in 2005 (due to reduced PCS latency)
  - V_{loop}~ 0 and dI_{OH}/dt ~ 0



GENRAY predicts strongly peaked RF power deposition on electrons & ~ 100 kA/MW RF current drive







- I_{RFCD} ~ 80 kA, assuming ~ 60% of P_{RF} heats plasma inside LCFS
- Further current drive analysis needed:
  - GENRAY-ADJ/QL
  - TRANSP-TORIC