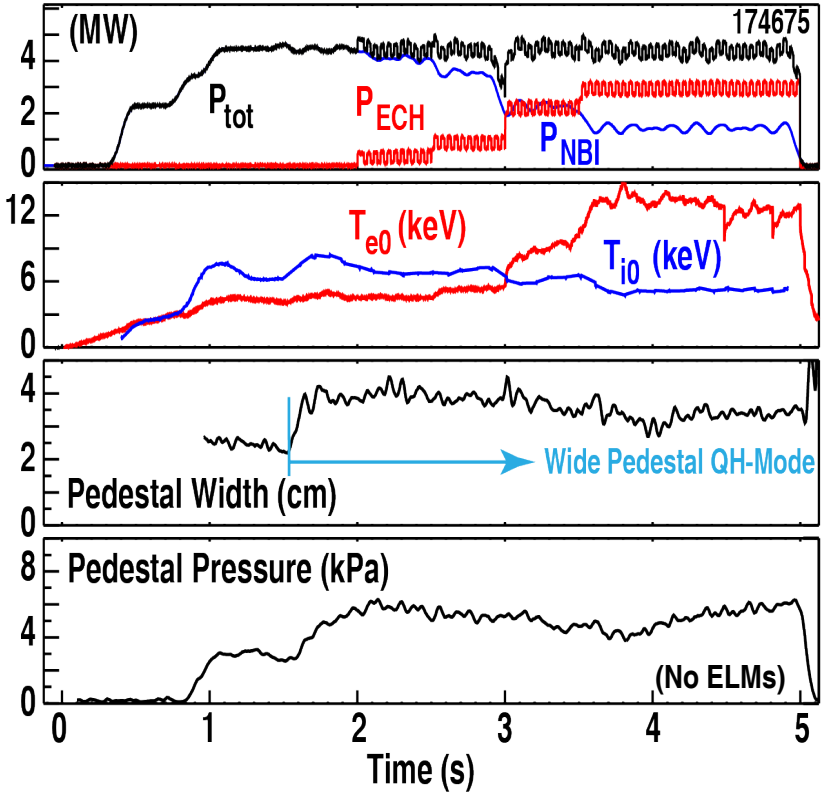
Wide-Pedestal QH-mode Initiated and Sustained with Zero Injected NBI torque throughout, and Sustained with Dominant Electron Heating (77% ECH power)

- **Achieved zero injected NBI torque throughout**
- **Confinement *improves* with electron heating**
- **T_e internal transport barrier forms due to electron heat pinch**
  - Pinch measured by Fourier analysis: increases R/L_{Te} by 2.4x
- **Dominantly electron-heated Wide Pedestal QH-mode is an attractive scenario for ITER**
  - Transition from QH-Mode to
    - 65% wider and 60% higher pedestal
    - H_{98y2} increases 45%
  - Pedestal regulated by turbulence
  - No ELMs or low mode number MHD
  - ITER collisionality

Ernst, Burrell, Petty, Barada, Chrystal et al, EX/2-2



DIII-D NATIONAL FUSION FACILITY

MIT PSFC Plasma Science and Fusion Center