MISK Calculations for F. Poli's ITER cases

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College W&M
Colorado Sch Mines
Columbia U
CompX
General Atomics
INL
Johns Hopkins U
LANL
LLNL
Lodestar
MIT
Nova Photonics
New York U
Old Dominion U
ORNL
PPPL
PSI
Princeton U
Purdue U
SNL
Think Tank, Inc.
UC Davis
UC Irvine
UCLA
UCSD
U Colorado
U Illinois
U Maryland
U Rochester
U Washington
U Wisconsin

Culham Sci Ctr
U St. Andrews
York U
Chubu U
Fukui U
Hiroshima U
Hyogo U
Kyoto U
Kyushu U
Kyushu Tokai U
NIFS
Niigata U
U Tokyo
JAEA
Hebrew U
Ioffe Inst
RRC Kurchatov Inst
TRINITI
KBSI
KAIST
POSTECH
ASIPP
ENEA, Frascati
CEA, Cadarache
IPP, Jülich
IPP, Garching
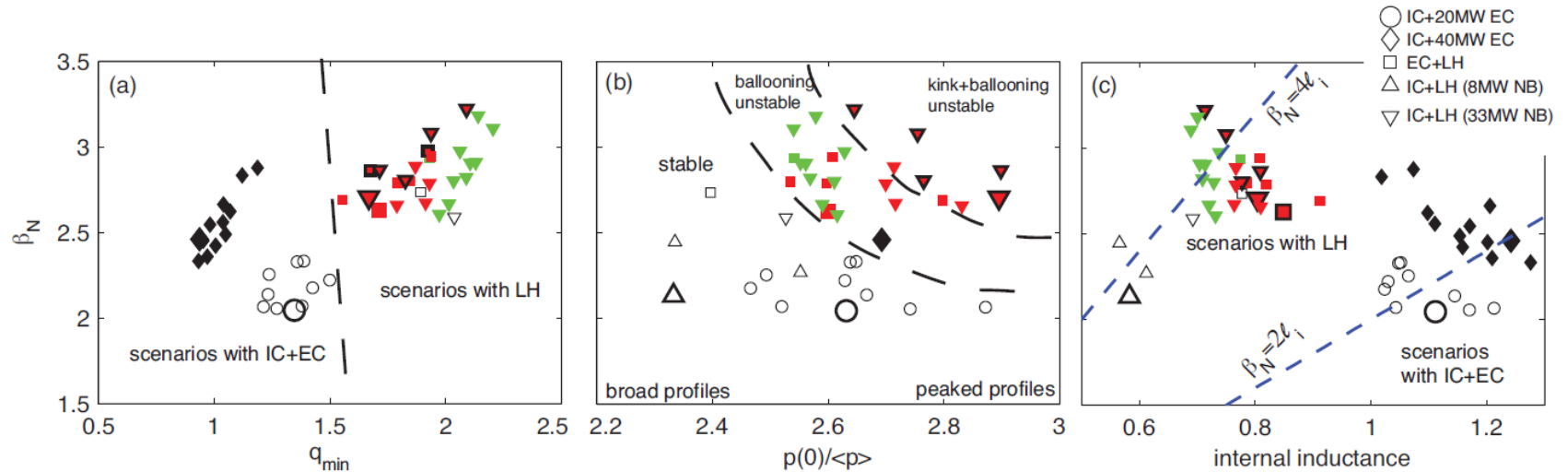ASCR, Czech Rep
U Quebec
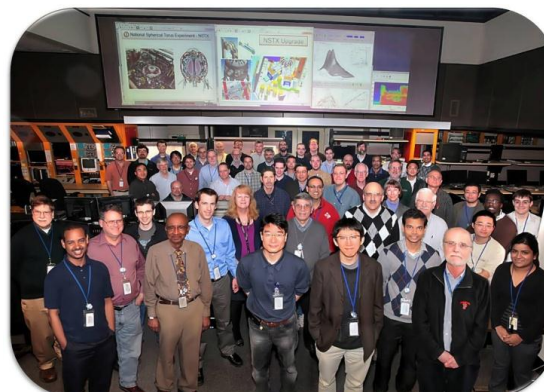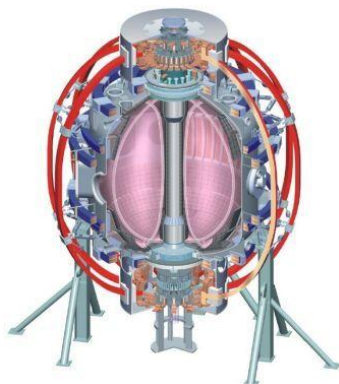
Cases

FIG. 18: (Colour online) (a) Normalized pressure vs minimum safety factor for all scenarios with 33 MW beam heating. The large q configurations with 8 MW and 16 MW of NB are not reported in this figure. (b) Normalized pressure vs pressure peaking factor. For the configurations with 40MW of EC only the reference case is reported in this figure. (c) Normalized pressure vs internal inductance. Open symbols indicate ideal MHD stable equilibria, red and green symbols indicate equilibria unstable to ballooning modes with n_{cr} - respectively - smaller and larger than $n_{cr} = 50$. Kink unstable plasmas are red with black border when stabilized by the wall, black when not stabilized.

[F. Poli *et al.*, submitted to Nucl. Fusion (2012)]
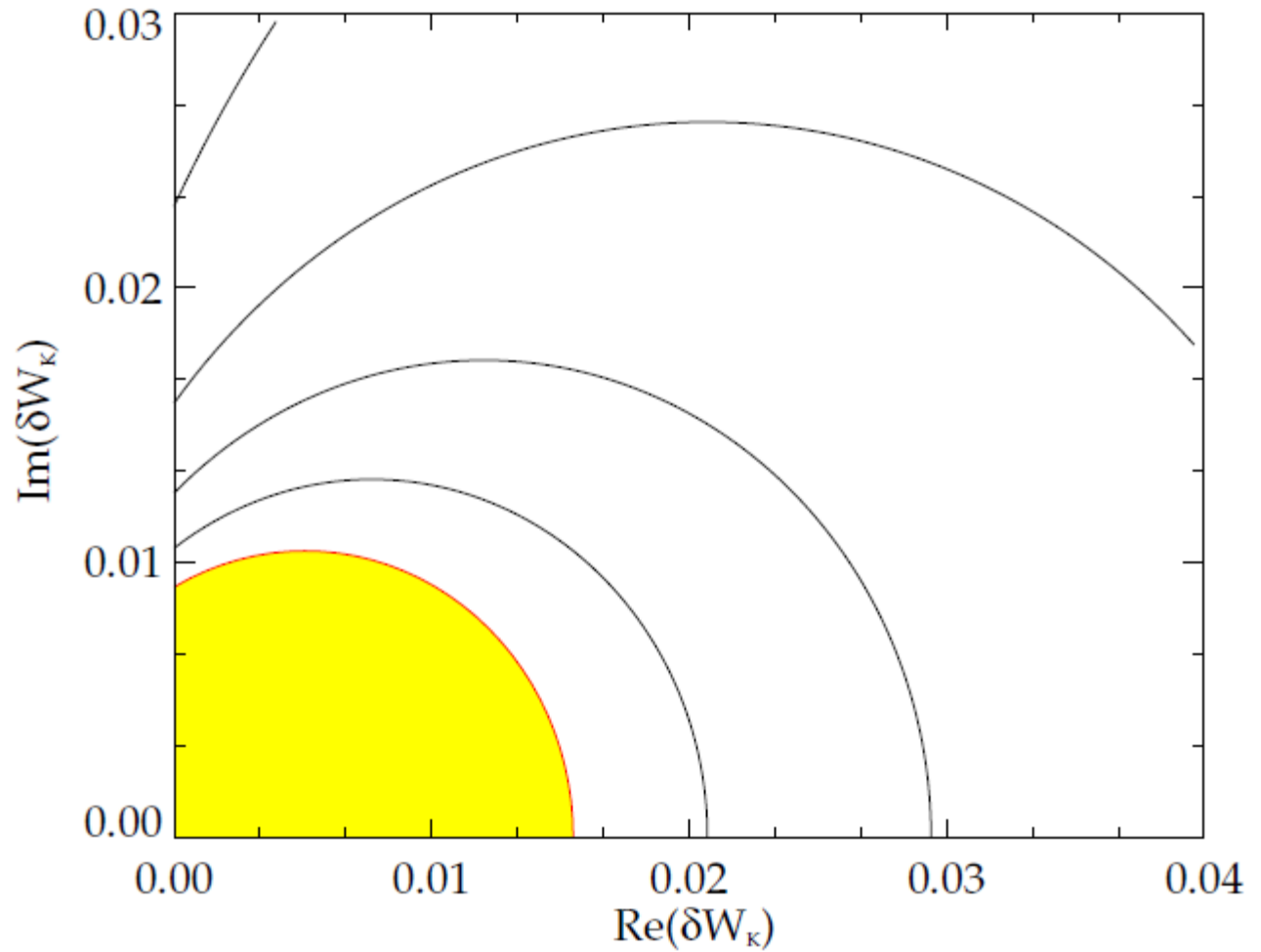
Two discharges selected:

34039 @ 2500s
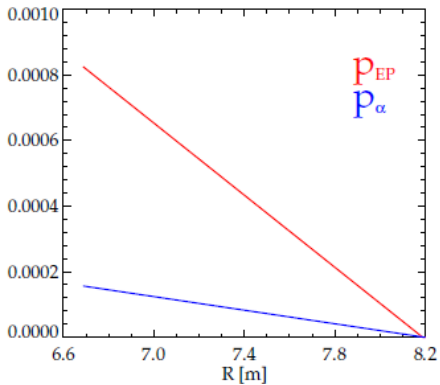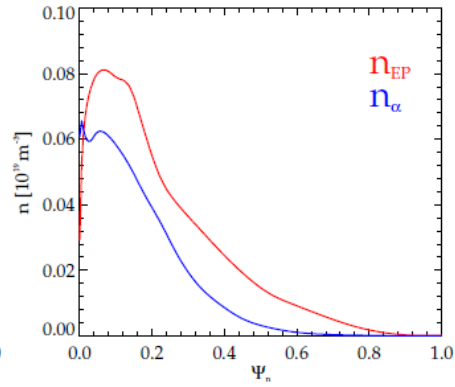
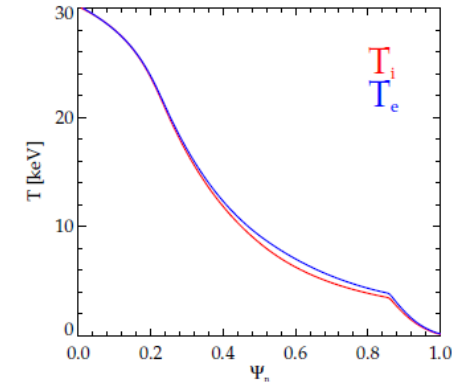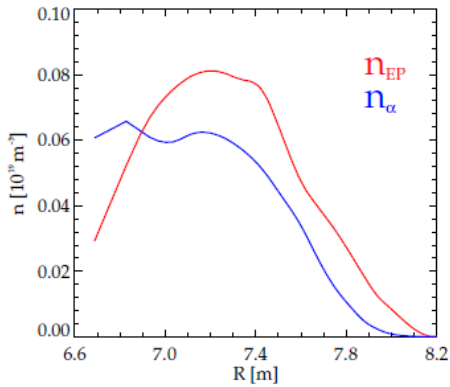### 34041 @ 2500s

Questions:
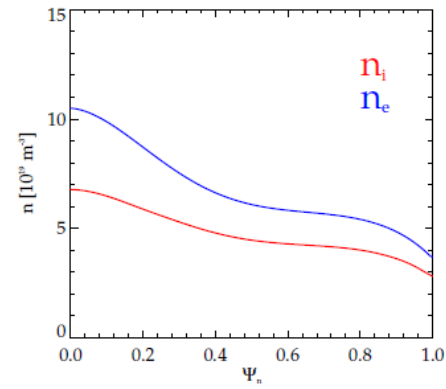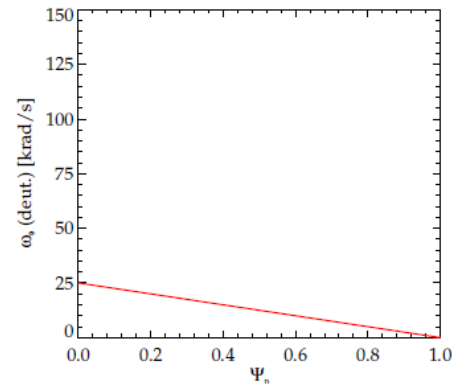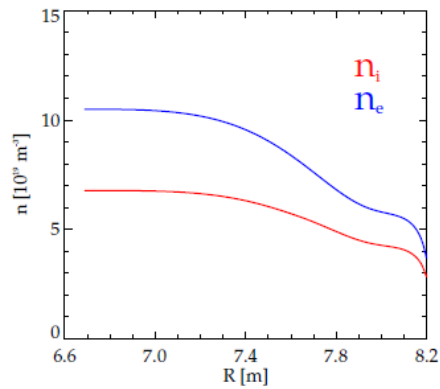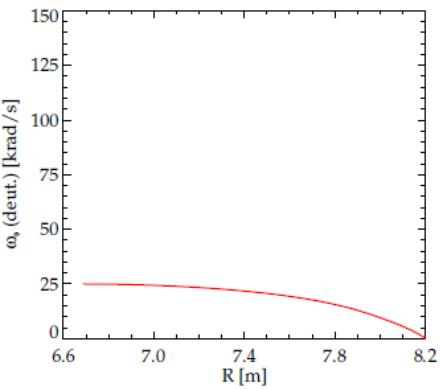- What heating mix do they have?
- "How does this affect the EP distribution function?

PEST Fluid δW results

34039

Marginal b = 0.414

Marginal eigenvalue = -0.3469e-5

dWinf = -0.15478102e-1

dWb = 0.53414071e-2

(Conformal wall with b = 0.35)

Do more realistic wall?
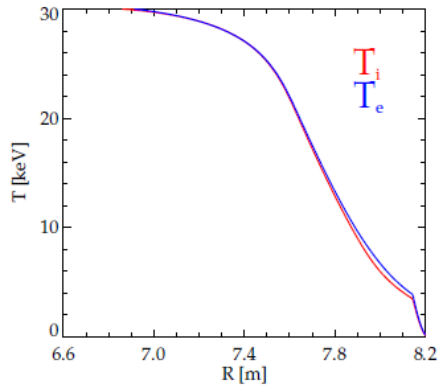
Questions:
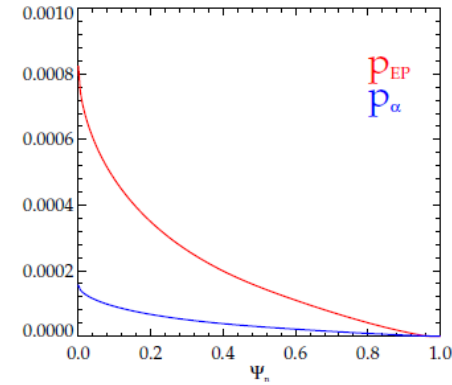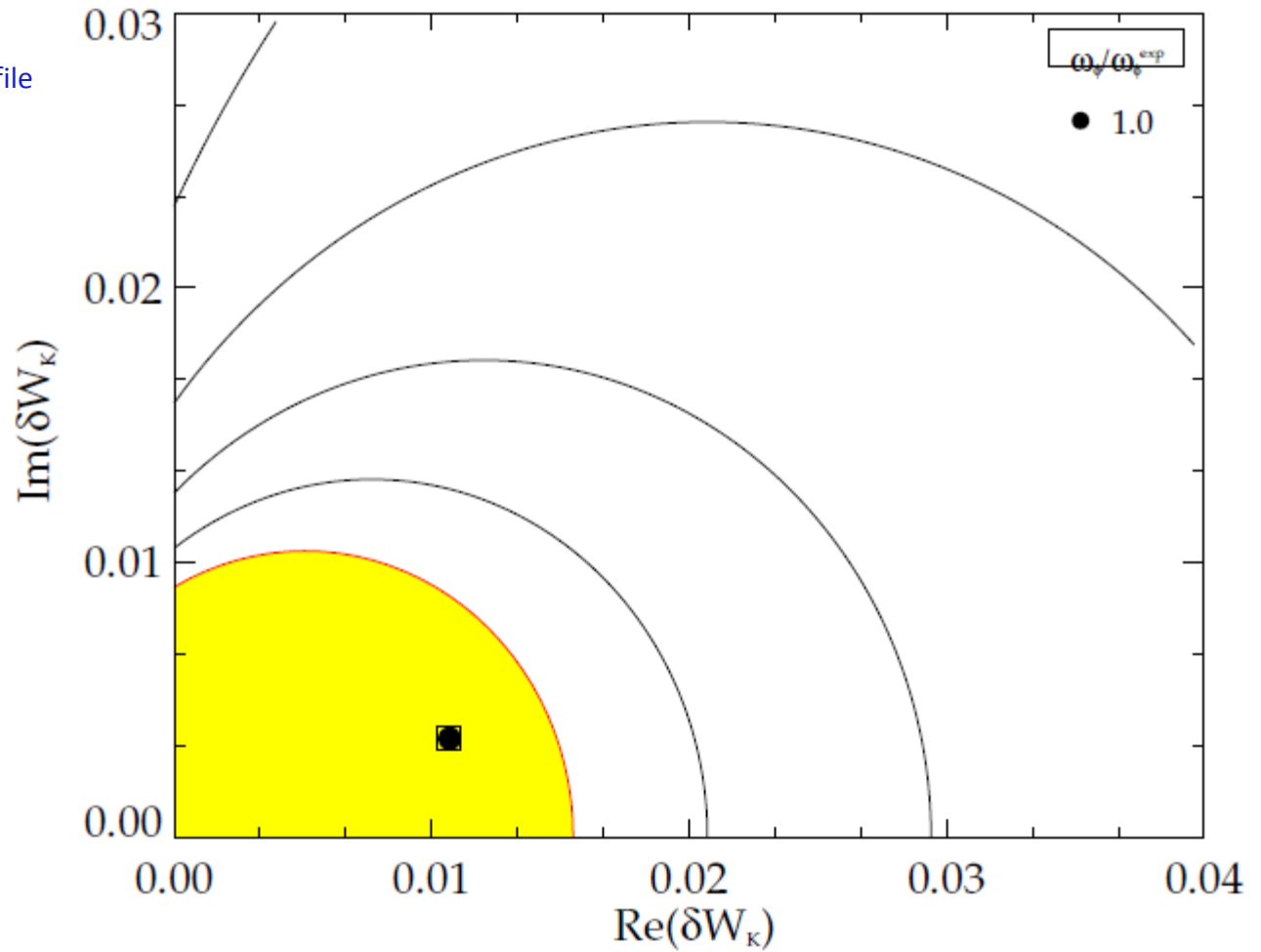
- is there tritium in these plasmas?

- "tsc does not have rotation, so I can re-run TRANSP, but I need a rotation frequency profile to input to TRANSP."

MISK Kinetic δW$_K$ results

No EPs, no alphas, made up rotation profile

XXX