

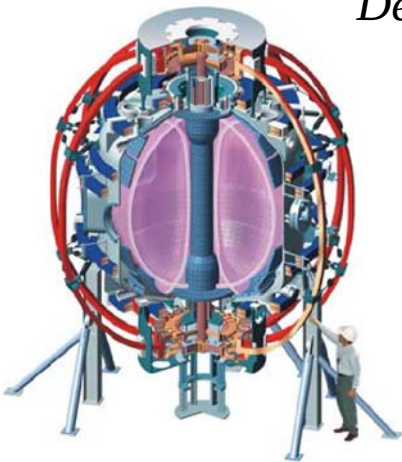
APS DPP 2010 Talk Idea: “Progress toward stability of low I_i plasmas spherical torus plasmas

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NSTX Physics Meeting

May 3rd, 2010

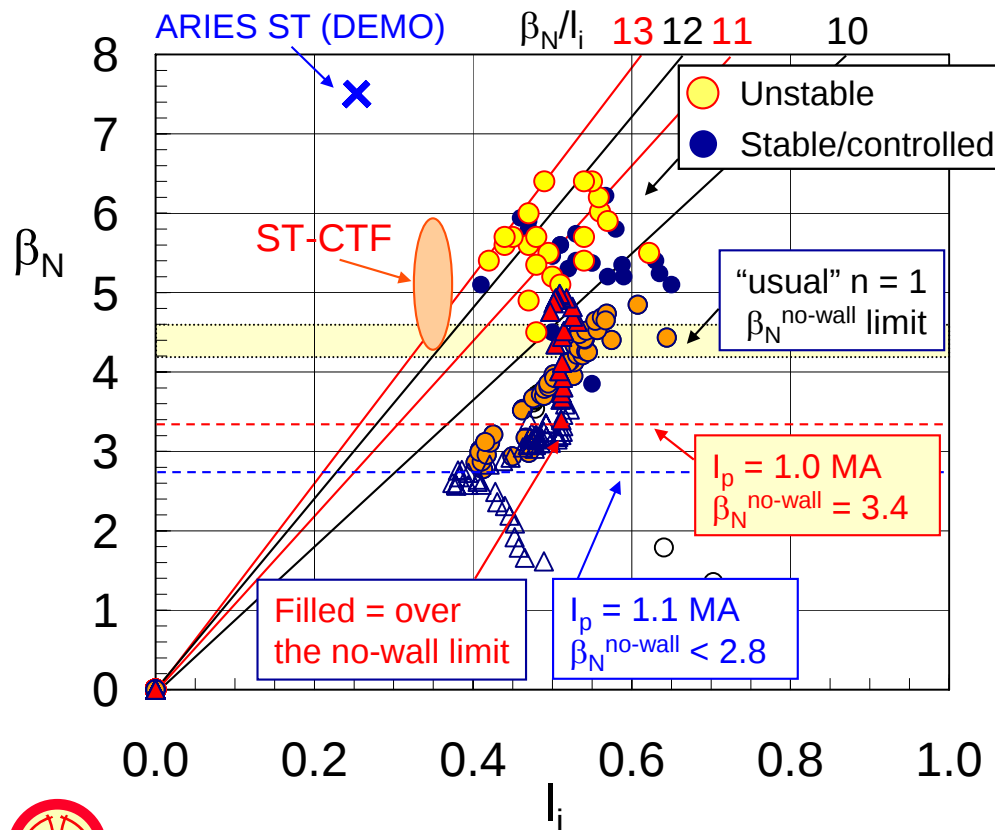
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APS DPP 2010 Talk Idea: “Progress toward stability of low I_i plasmas spherical torus plasmas”

• Motivation

- Next-step ST devices (including NSTX-U) aim to operate at I_i below usual NSTX levels
- Reliable stability to be shown/understood



• Physics topics (1 page brief)

- Operation near/at current-driven kink limit
 - No-wall beta limit significantly reduced
- Understand/show physics to improve stability/control
 - RWM instability / control loss greatly increased ~50%
 - Improved RWM control in 2010 campaign
- Rotation/kinetic RWM stabilization at low I_i
 - Is our present physics paradigm (development of MISK) correct at low I_i ?
 - Stability extrapolation to envisioned ST-CTF target plasmas



XP948: S.P. Gerhardt XP1023: S.A. Sabbagh