

Research
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XP529: The Dependence of Pedestal Structure on Aspect Ratio

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NSTX Results Review

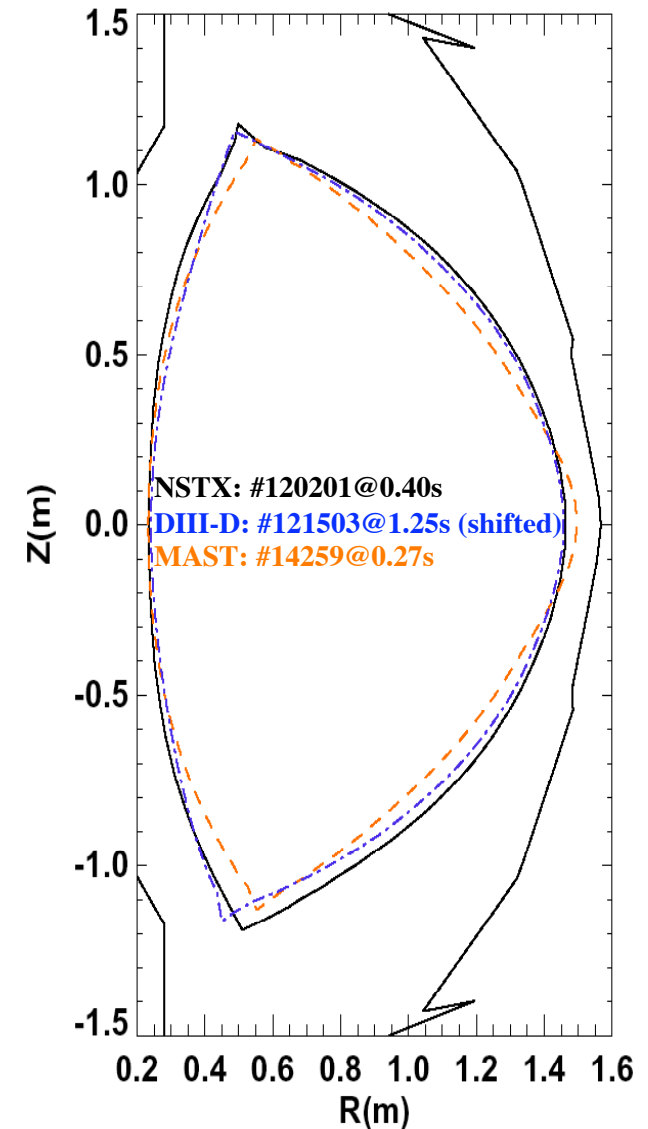
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Good progress made on pedestal scaling experiment (ITPA PEP-9, XP 529)

- Desired: DIII-D and MAST shapes for at least two different pedestal electron collisionality (0.5, 1)
- Result: Obtained a reasonable shape match to the DIII-D/MAST shapes
- Result: Performed a power scan to assess edge β limit, w/SGI for fueling
- Result: Obtained a low collisionality comparison at medium NBI power by using He conditioning discharge
- Finding: lower density/fueling discharge was ELM-free \rightarrow higher edge β limit
- Pedestal widths/gradients analysis requires new edge channels



Density/collisionality variation achieved through He conditioning discharge and fueling control



Edge β (β') limit higher, but instability more catastrophic

