NSTX-U

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Leading Edge Power Loading on PFC's

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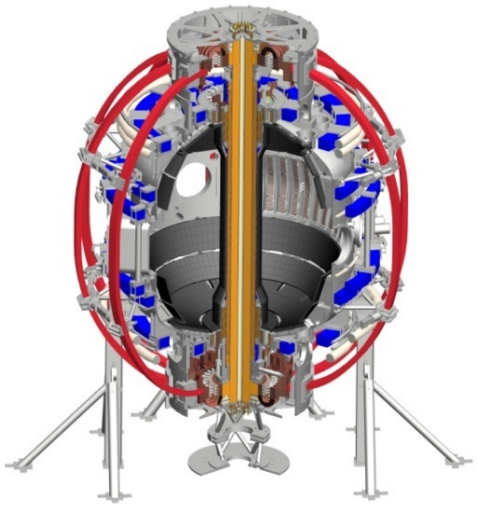

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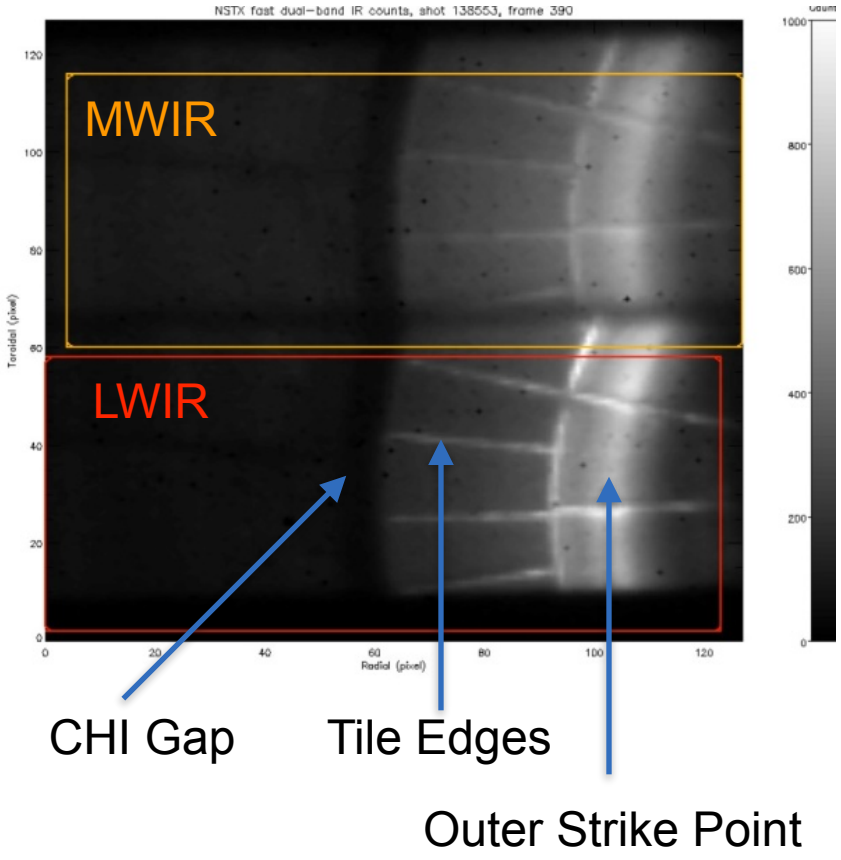
Leading edge power fluxes can be deleterious when PFCs are upgraded to high-Z

Motivation

- Tile misalignments can lead to significant heating and erosion of PFCs
- This becomes more of a problem with high-Z PFC tiles
- Already experienced this in NSTX with graphite
- Contributes to ITPA DSOL-31

Unprocessed Dual-band IR Image



Goal: Characterize leading edge heat fluxes in the high-Z discharge shape with improved spatial resolution (1 run day)

Experimental Run Plan (1 run day)

- Utilizing higher spatial resolution optics for the fast IR camera (100 mm fl)
  - Will require some “XMP” time to re-aim camera optics
  - 6 mm/pix → 1.5 mm/pix
- Will provide the baseline for comparison with Mo tiles
- Begin in high-Z tile shape (lower δ) under boronized wall conditions, with low input power
  - Ip ≥ 1.2 MA, Bt = 0.5 T
- Increase input power until stability or administrative limits
- Repeat under Li wall conditions