3D Equilibrium Reconstruction for NSTX
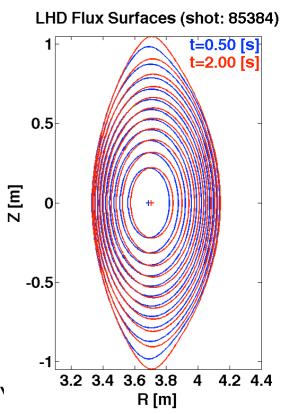
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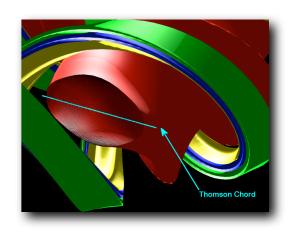March 3, 2012

PPPL

U.S. DEPARTMENT OF ENERGY

What is STELLOPT currently doing?

- 3D Equilibrium Reconstructions on LHD

  - Magnetics

  - Thomson scattering

  - Motional Stark Effect (MSE)

  - X-Ray Imaging Crystal Spectrometer (XICS)

  - VMEC 3D Equilibria

- Advanced Equilibria (SPEC, PIES)

- DIII-D Reconstruction Effort

LHD Flux Surfaces (shot: 85384)

How do we get going on NSTX 3D Reconstruction?

- Stage 1 : Tool Prep

  - EFIT Equilibria -> VMEC (up/down symmetric?)

- Stage 2 : Simple Reconstructions

  - STELLOPT Reconstruction (Thomson, Stored energy, Net toroidal current)

- Stage 3 : Full 3D Reconstructions

  - Add in magnetics and additional diagnostics