Reconstruction and Flexibility of Candidate Configurations

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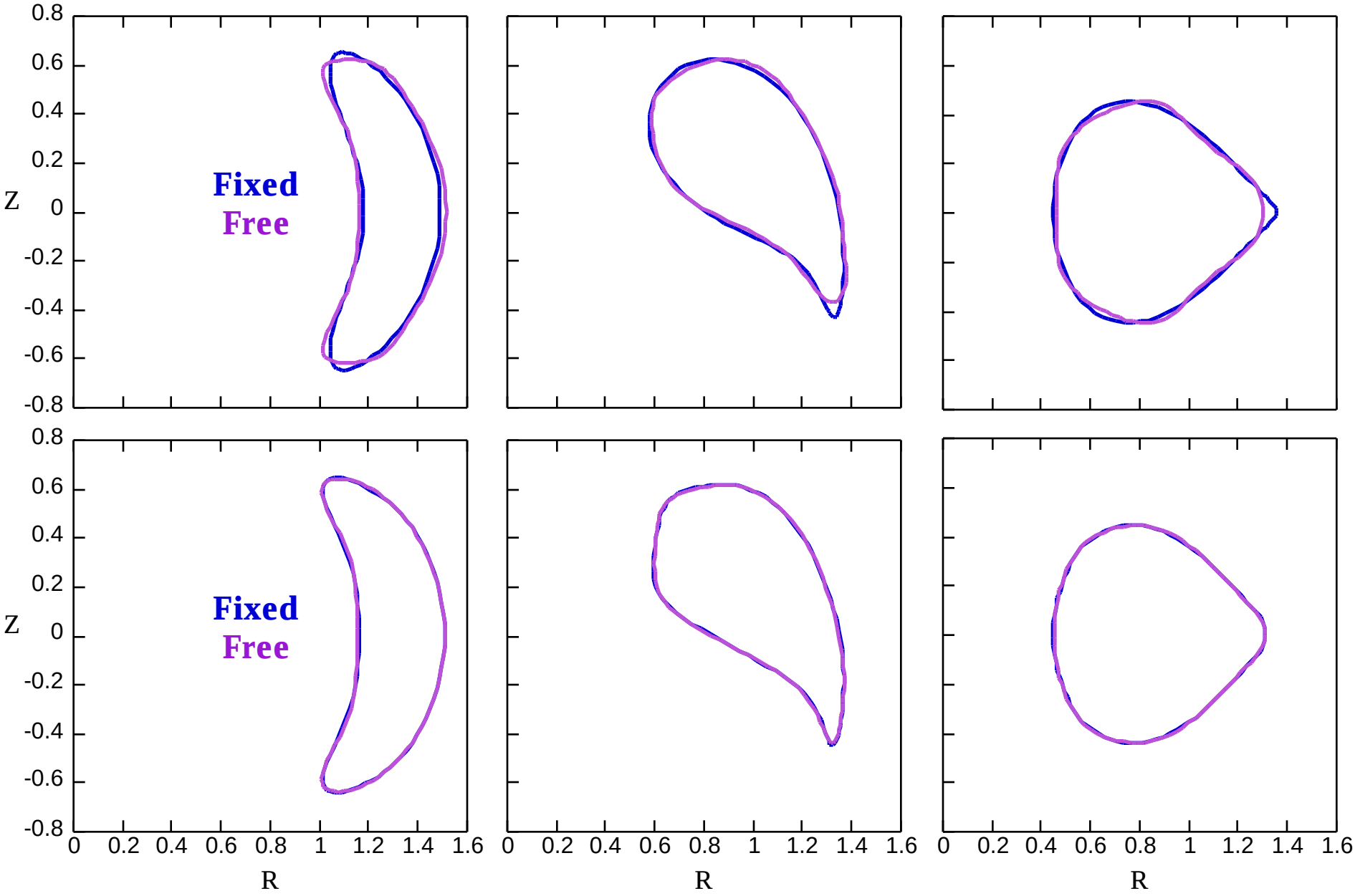
Reconstruction and Flexibility of the Coil Configurations

- Reconstruction
  - how well do the coils reproduce fixed boundary results?
- Flexibility
  - Running with coils and Ohmic current
  - How does changing the vertical field affect the shape and rotational transform

Reconstruction: DKES and Ballooning Chi-Sqs for Fixed and Free Boundary

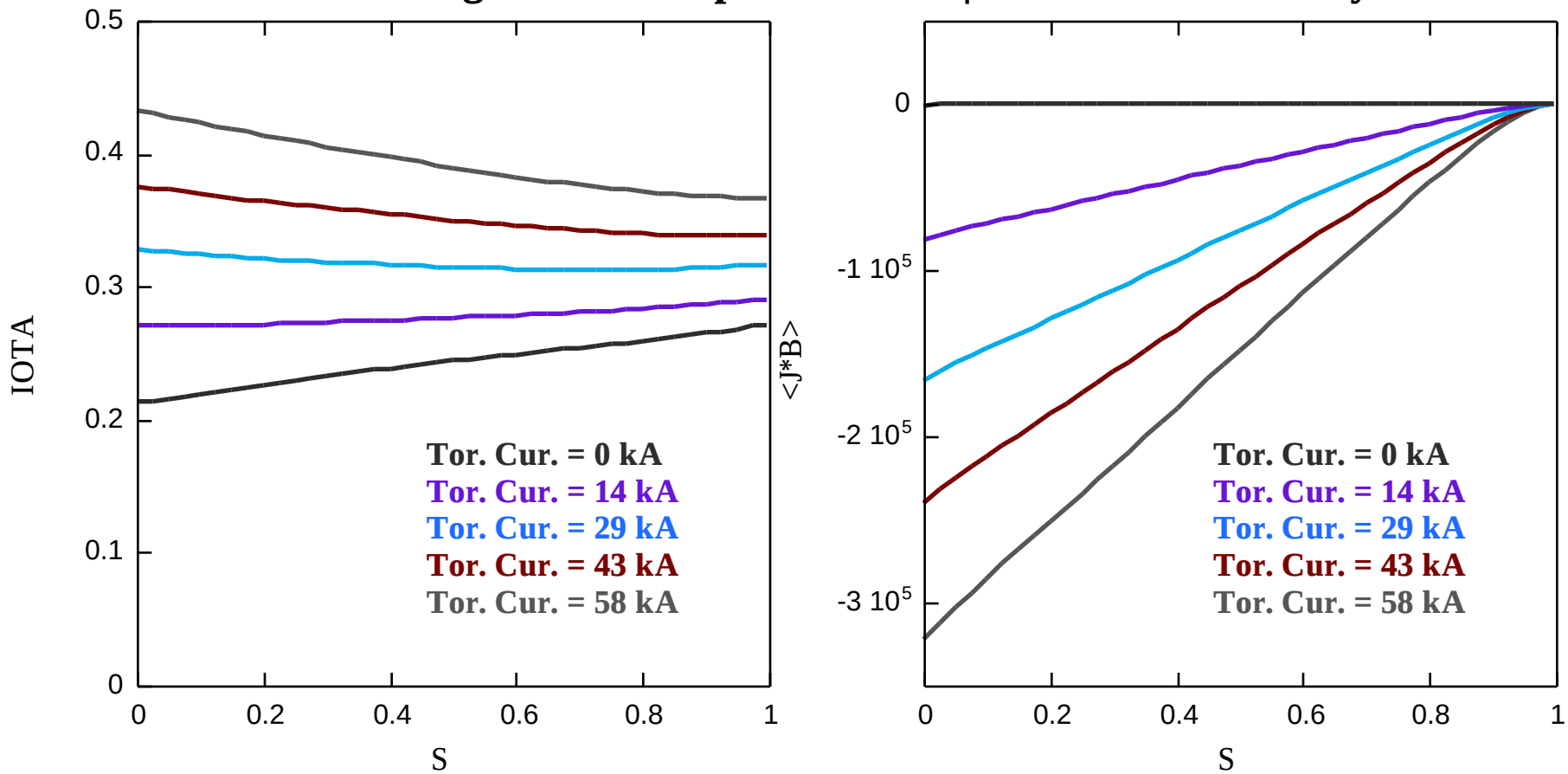
	Chi-Sq Balloon	Chi-Sq DKES
gb4_nes_12a Fixed gb4_nes_12a Free	1.942E+05 1.357E+07	6.205E+04 6.341E+04
Optimized Fixed Optimized Free	0.000E+00 0.000E+00	7.199E+04 7.248E+04

Reconstruction: Original & Optimized



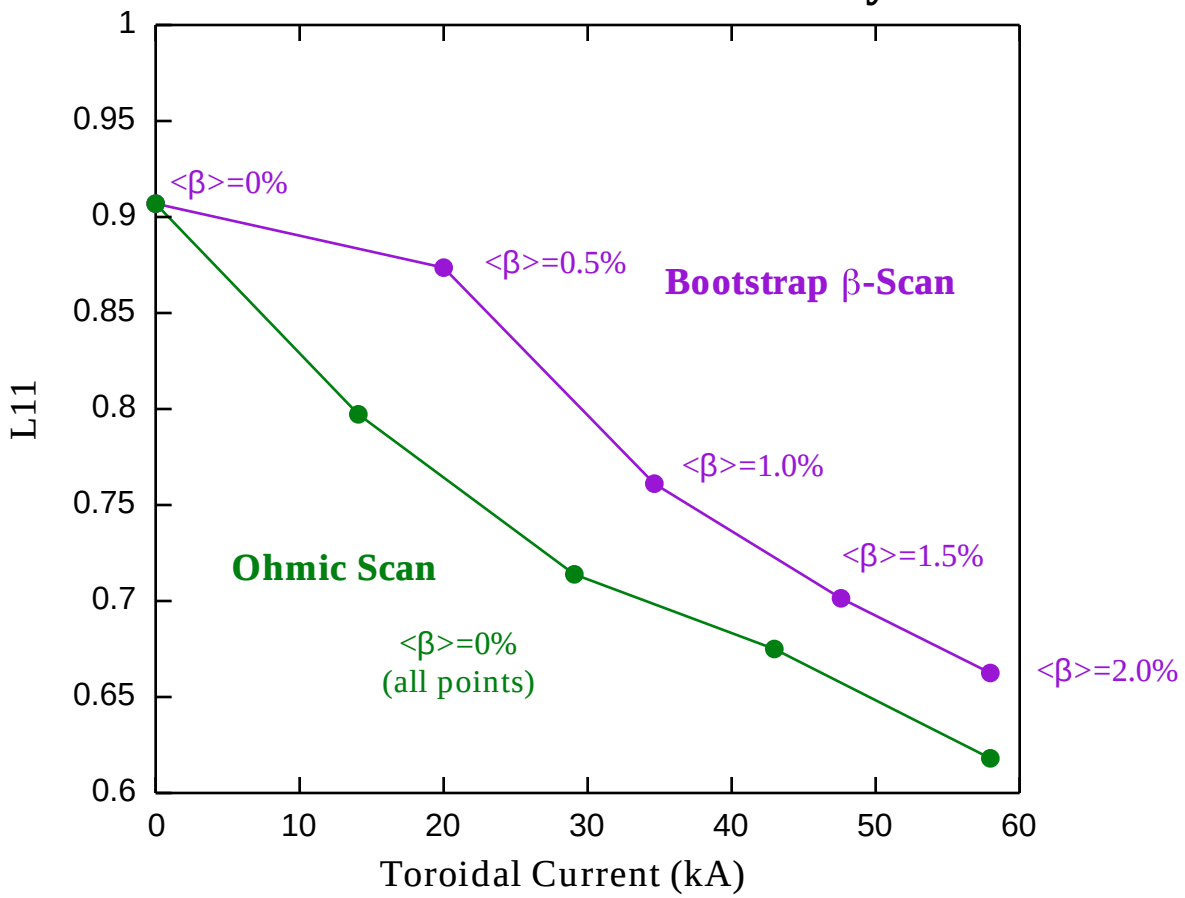
Ohmic Current Scan: Can obtain tokamak-like rotational transform profiles

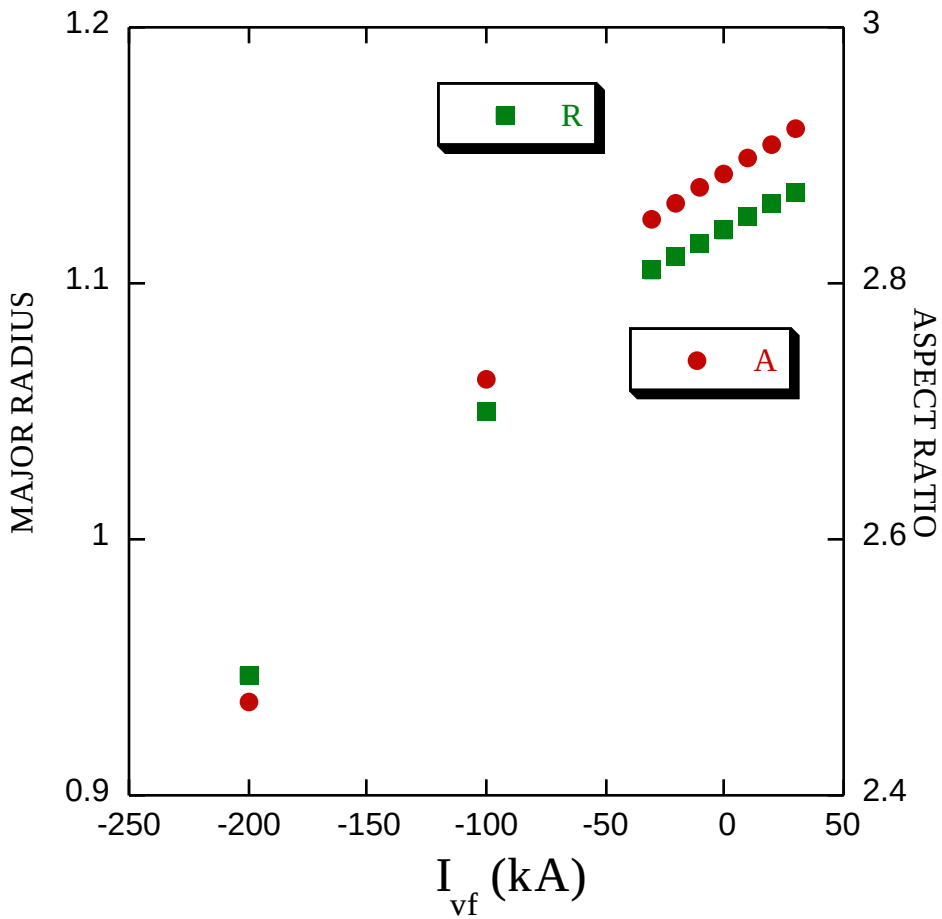
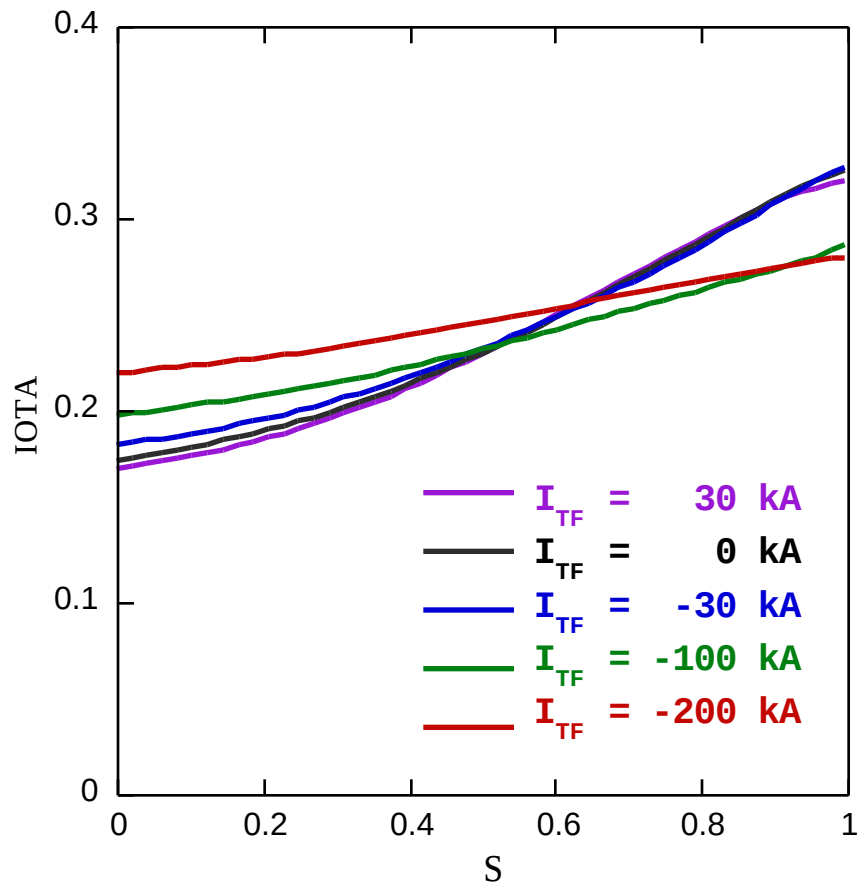
- **Iota and field aligned current profiles for <β>=0% free boundary cases**



Ohmic Current Scan: Transport levels comparable between Ohmic & bootstrap cases

- **DKES L11 at S=0.7 Surface - Free Boundary - Ohmic Scan**



Vertical Field Scan: Have begun assessing the sensitivity of the coil configurations

- **R, A, & ι-profiles as a function of current in the vertical field coils (β=0%)**