Abstract Submitted
for the DPP01 Meeting of
The American Physical Society

Sorting Category: 5.6.5 (Experimental/Observational)

Magnetic Fitting of Helicity Injected Plasmas in NSTX[1] M.J. SCHAFFER, L.L. LAO, General Atomics, S.A. SABBAGH, Columbia U., D.A. GATES, J.E. MENARD, D. MUELLER, Princeton Plasma Physics Laboratory, R. RAMAN, U. Washington, NSTX TEAM — Low-aspect-ratio spherical tori (ST) have severely limited inductive current drive capability and can benefit greatly from efficient non-inductive current drive. Noninductive plasma initiation and current sustainment by coaxial helicity injection (CHI) was demonstrated on small STs, and it has been greatly scaled up on NSTX, a much larger ST. During CHI, NSTX plasma magnetic surfaces, both open and closed, are computed from magnetic data to both study and control CHI through all its phases. The toroidal current loop magnetic fitting code MFIT and the equilibrium reconstruction and fitting code EFIT are used. We report recent modifications to both codes for CHI plasma fitting since first results[2]. A new EFIT algorithm suitable for all plasma regions will be described. Examples from NSTX experiments will be shown and discussed.

[1]Work supported by US DOE Contract DE-FG03-99ER54522.
[2]M.J. Schaffer, et al., Bull. Am. Phys. Soc. **44**, 185 (1999).

M.J. Schaffer
schaffer@fusion.gat.com
General Atomics

☐ Prefer Oral Session
☒ Prefer Poster Session

Special instructions: NSTX Session

Date submitted: July 20, 2001 Electronic form version 1.4