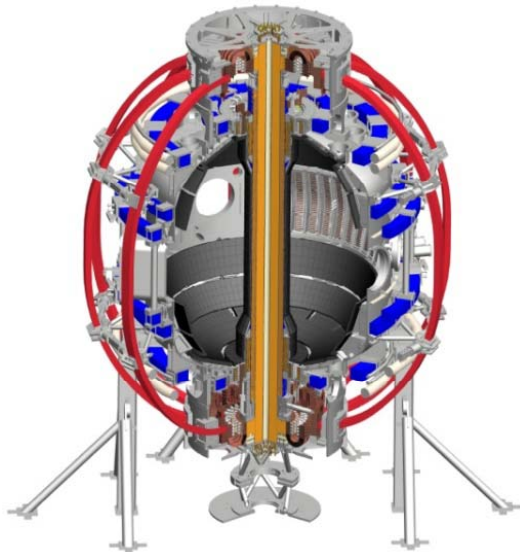


NSTX-U T&T TSG Contributions to FY15 JRT

*Coll of Wm & Mary
Columbia U
CompX
General Atomics
FIU
INL
Johns Hopkins U
LANL
LLNL
Lodestar
MIT
Lehigh U
Nova Photonics
Old Dominion
ORNL
PPPL
Princeton U
Purdue U
SNL
Think Tank, Inc.
UC Davis
UC Irvine
UCLA
UCSD
U Colorado
U Illinois
U Maryland
U Rochester
U Tennessee
U Tulsa
U Washington
U Wisconsin
X Science LLC*

**Y. Ren, W. Guttenfelder, S.P. Gerhardt, S.M. Kaye
and the NSTX-U Team**



*Culham Sci Ctr
York U
Chubu U
Fukui U
Hiroshima U
Hyogo U
Kyoto U
Kyushu U
Kyushu Tokai U
NIFS
Niigata U
U Tokyo
JAEA
Inst for Nucl Res, Kiev
Ioffe Inst
TRINITY
Chonbuk Natl U
NFRI
KAIST
POSTECH
Seoul Natl U
ASIPP
CIEMAT
FOM Inst DIFFER
ENEA, Frascati
CEA, Cadarache
IPP, Jülich
IPP, Garching
ASCR, Czech Rep*

T&T TSG Experimental Ideas

- NSTX-U will have a set of experimental knobs to vary/control pressure and current profiles
 - Two NBIs (6 independent sources), HHFW, 3D coils and lithium deposition
 - Different pressure and current profiles from using a subset of the 6 NBI sources
 - Heating/current drive from HHFW with NBI or used independently
 - 3D coils used to modify rotation profile coupled with NBI
 - Different profiles with/without lithium
 - Need to identify ways to decouple pressure and current profile variations
 - Different time scales of pressure and current profile relaxation
 - HHFW in heating mode

T&T TSG Experimental Ideas

- T&T researches to support the FY15 JRT
 - q_{\min} dependence of confinement (fixed q_{95})
 - DIII-D observation of degraded confinement with broader current profile and with q_{95} fixed
 - B_T , I_p and collisionality scalings with different NBI source combinations and HHFW
 - Try to decouple pressure and current profile
 - 3D coils to modify rotation profile
 - Lithium scan to vary pressure and current profile
 - Need to assess the coupling between pressure and current profile
 - Lithiated and non-lithiated plasma comparison
 - Confinement and pressure profiles are known to be different between the cases from NSTX experiments
 - Also impurity and momentum confinement

