

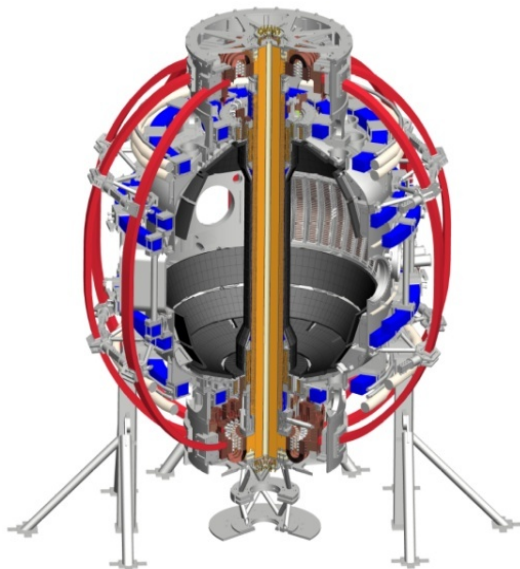
Opportunities for WEP-related collaborations with DIII-D in FY13

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for the NSTX-U WEP TSG

**PPPL, Room B252
July 18th, 2013**

*Coll of Wm & Mary
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General Atomics
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INL
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MIT
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ENEA, Frascati
CEA, Cadarache
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IPP, Garching
ASCR, Czech Rep*

DIII-D is allocating ~10 run days in FY13 to a “National Campaign” for *high-impact* experiments

Ref.: M. Wade’s letter to FFCC, July 12th 2013

– see J. Menard’s email to NSTX-U team on 07/16

- FY13/14: operations planned for only one major facility (DIII-D) in the U.S.
 - A National Campaign aimed at providing opportunities for **enhancing U.S. impact at the IAEA Conference** and/or **establishing/extending U.S. leadership** in key fusion research areas.
 - Emphasis [...] on **research that targets extension of results from C-Mod and NSTX** that would benefit greatly from complementary/new data from DIII-D.
- > *Compile a list of **compelling experimental activities** that can be discussed and prioritized by the FFCC for inclusion in the ongoing DIII-D planning*
- > *A **timely response is required** as the experimental plan for mid-August through October needs to be finalized within the next several weeks.*
- J. Menard: discuss ideas w/ DIII-D contacts “[...] ASAP (this week if possible) so we can **consider this request within the FFCC possibly as early as next week.**”*

MP's proposals: focus on NB-CD modifications by Alfvénic modes, V&V of (reduced) models

- NB Current Drive modifications by *AEs
 - Clearly relevant for NSTX-U, DIII-D, ITER/FNSF
 - Ongoing work for NSTX/NSTX-U (Darrow et al.)
 - Expanding NSTX parameter space would allow more reliable extrapolations to NSTX-U and beyond
 - > *Target ramp-up phase, reverse-shear scenarios with *AEs, EPMs*
- Verification&Validation of reduced models for fast ion transport by *AEs
 - Build on previous work by Gorelenkov, Ganthous et al.
 - 1.5D-QL model already available; development of reduced model for TRANSP would benefit from this as well
 - Further V&V is beneficial
 - N. Gorelenkov: why the [1.D-QL] model works sometimes "too" well?
 - > *Focus on parameter scans (e.g. fast ion collisionality via T_e , NBI geometry) to challenge the model(s)*
- **Other ideas?**