

Supported by



Response to PAC-35 Comments on Plans for Scrape-off Layer and Divertor Research on NSTX-U

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

V. A. Soukhanovskii (LLNL) for the NSTX-U Research Team

> NSTX-U Meeting PPPL – B318 25 July 2014



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 loffe Inst TRINITI 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

PAC-35 endorsed on-going and planned research

 "Overall, it is good and appropriate that this topical group is becoming more integrated to the central mission of the NSTX-U program..."

- ????

 "The boundary / SOL team is congratulated on what appears to have been a very productive collaboration with DIII-D in further development and exploration of the snowflake divertor configuration for divertor heat flux control."



PAC-35 is satisfied with the presented diagnostic and modeling plans

- The proposed diagnostic set is appropriate to both support the NSTXU overall mission and advance the edge physics in the first few years of operation.
 - The development and installation of divertor Thomson scattering would be a great addition to the diagnostic battery, and one that seems possible with the rather open divertor geometry of NSTX-U.
 - Continued deployment and improvement to PMI diagnosis should be considered.
 - encourage the team to involve boundary modeling...
- NSTX-U Team Response: fully agree



PAC-35 is concerned with particle control much more than with heat flux mitigation need

- "The issue of achieving stationary particle/density control should be the highest priority in the near-term for SOL/ divertor research"
- "It is recommended that heat flux is not the highest priority since it appears unlikely that administrative energy-limits will be surpassed for the PFCs."
- "Assure the necessary near-term effort to fully characterize the requirements and feasibility of the cryopump through measurement and modeling."
- NSTX-U Team Response: agree and plan to maintain focus on particle control (while continuing to implement heat flux mitigation strategies)