Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

Status and Plans for the TRANSP Interpretive and Predictive Simulation Code[1] STANLEY KAYE, ROBERT ANDRE, GORELENKOVA MARINA, XINGQUI YUAN, RICHARD HAWRYLUK, STEVEN JARDIN, FRANCESCA POLI, Princeton Plasma Physics Laboratory, Princeton University, Princeton NJ 08543 USA — TRANSP is an integrated interpretive and predictive transport analysis tool that incorporates state of the art heating/current drive sources and transport models. The treatments and transport solvers are becoming increasingly sophisticated and comprehensive. For instance, the ISOLVER component provides a free boundary equilibrium solution, while the PT_SOLVER transport solver is especially suited for stiff transport models such as TGLF. TRANSP also incorporates such source models as NUBEAM for neutral beam injection, GENRAY, TORAY, TORBEAM, TORIC and CQL3D for ICRH, LHCD, ECH and HHFW. The implementation of selected components makes efficient use of MPI for speed up of code calculations. TRANSP has a wide international user-base, and it is run on the FusionGrid to allow for timely support and quick turnaround by the PPPL Computational Plasma Physics Group. It is being used as a basis for both analysis and development of control algorithms and discharge operational scenarios, including simulation of ITER plasmas. This poster will describe present uses of the code worldwide, as well as plans for upgrading the physics modules and code framework. Progress on implementing TRANSP as a component in the ITER IMAS will also be described.

[1]This research was supported by the U.S. Department of Energy under contracts DE-AC02-09CH11466.

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Date submitted: 20 Jul 2015 Electronic form version 1.4