Status of TRANSP and PTRANSP D. MCCUNE, R. ANDRE, E. FEIBUSH, K. INDIRESHKUMAR, C. LUDESCHER-FURTH, L. RANDERSON, PPPL, H. ST. JOHN, General Atomics, G. BATEMAN, F. HALPERN, A. KRITZ, Lehigh U., L. LODESTRO, W. MEYER, D. PEARLSTEIN, LLNL — The PPPL TRANSP code suite is a set of tools for time dependent simulation of axisymmetric tokamak plasmas. While the code has historically been used primarily for analysis of experimental results, predictive modeling enhancements to TRANSP have been carried out under the PTRANSP project. TRANSP and PTRANSP are now both deployed as Fusion Grid services at PPPL, supporting an international user base. The status of TRANSP and PTRANSP code development, as well as trends in production use, are presented. New and developing features, such as the solution of free boundary MHD equilibria, the use of advanced solvers for prediction of the evolution of plasma density, angular momentum, and temperature profiles, are emphasized. The status of MPI parallelization of TRANSP components is described. A recent positive development has been the beneficial collaboration between TRANSP/PTRANSP and SciDAC FSP prototype projects SWIM and FACETs, with code components being shared effectively across all of these efforts. PPPL work performed under auspices of DOE contract DE-AC02-76CH03073; LLNL work performed under auspices of DOE contract DE-AC52-07NA27344.

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