

Abstract Submitted
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New MHD Equilibrium Solver Options in TRANSP¹ R. ANDRE, D. MCCUNE, J. MENARD, Princeton Plasma Physics Laboratory, D. PEARLSTEIN, L. LODESTRO, Lawrence Livermore National Laboratory, J. CARLSSON, Tech-X Corporation — TRANSP users have access to several prescribed boundary MHD equilibrium solvers. The most frequently used solvers in the past have been VMEC, ESC and RZSOLVER. All solvers take the plasma boundary, and some representation of the current profile, external field, and pressure profile as given from the TRANSP input data and/or simulation. Recently, the highly regarded TEQ equilibrium solver was extracted from the LLNL Corsica transport code and installed in TRANSP. TEQ has performed well on data from numerous experiments, and has shown particular promise in addressing difficulties encountered by other solvers modeling low aspect ratio equilibria from such tokamaks as NSTX and MAST. In addition, the low aspect ratio optimized solver ISOLVER is being ported from IDL to fortran for use within TRANSP. ISOLVER is capable of including a plasma rotation-modified pressure term which is important for many low aspect ratio tokamak experiments. This poster will focus on the status of TEQ and ISOLVER in TRANSP, comparing their results with results from the older solvers for selected input data.

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