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Some Recent Extensions and Applications of the NTCC Demonstration Transport Code¹ H.E. ST. JOHN, General Atomics, M. MURAKAMI, Oak Ridge National Laboratory, NTCC FRAMEWORK TEAM, — The Python-based transport code being developed by the NTCC was recently applied to analysis of Experimental DIII-D data for the first time. Here we present some of the extensions that were made in support of that effort. Specifically we have extended the code by addition of public domain interactive graphics, computationally intensive Fortran routines for determination of various mhd derived quantities required in transport, and introduction of the MPI parallel computational paradigm. It is shown how various linkage issues can be dealt with in order to produce a dynamically loadable Python interpreter that works with MPI enabled Fortran, C and C++ routines. A method for parallelization of a large category of embarrassingly parallel code modules is presented. Using preprocessors we can achieve this goal without creating special source packages.

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