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Supporting IMAS actors and the European Transport Solver in OMFIT[1] O. MENEGHINI, S.P. SMITH, General Atomics, J. FERREIRA, Instituto de Plasmas e Fuso Nuclear, MICHELE ROMANELLI, STUART HENDERSON, Culham Centre for Fusion Energy, JEFF CANDY, LANG LAO, General Atomics — The OMFIT framework [https://gafusion.github.io/OMFIT-source] and OMAS library [https://gafusion.github.io/omas] are used to facilitate the execution of the European Transport Solver (ETS) [https://wpcd-workflows.github.io/ets.html]. A distinguishing feature of ETS is that physics components exchange data between each other via ITER IMAS data structures, while the transport simulation itself is orchestrated by the Kepler workflow manager. The interface between OMFIT and ETS is mediated by the OMAS Python library, which simplifies the interface of Python codes and IMAS. In this scheme, OMFIT enables loading the experimental data of different devices into IMAS, and provides ETS with a convenient user interface to facilitate setting up and executing the simulation within Kepler. Since OMFIT can cast data in IMAS data structures independently of the experiment of origin, we were able to seamlessly carry out JET and DIII-D transport simulations in ETS. Importantly, this approach can be easily extended to execute any existing IMAS Python actors and Kepler workflows within OMFIT. Such developments illustrate how physicists can leverage the versatility of the OMFIT environment to drive the large set of Python IMAS actors that are being developed by EUROFUSION and the ITER organization.

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