Abstract Submitted
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**Quantifying Statistical Uncertainty in Tokamak Transport Modeling**[1] P. NAMASONDHI, UCLA, C. HOLLAND, UCSD, R. PRATER, J.C. DEBOO, J. CANDY, G.M. STAEBLER, GA, A.E. WHITE, MIT-PSFC — An essential component of model validation is quantifying the uncertainty of model predictions, and including these uncertainties in assessments of model fidelity. Within the context of tokamak transport modeling, this requirement translates into propagating uncertainties in the input parameters into uncertainties in the model output. Towards this end, we present initial results from a newly implemented workflow based upon a Monte-Carlo approach to uncertainty quantification. This approach uses an ensemble of plasma profile fits to first calculate a corresponding ensemble of ONETWO power balance analyses. These ensembles are then used to calculate a corresponding ensemble of profile predictions, using the quasilinear TGLF transport model with the TGYRO transport solver. By using the ensemble statistics of the experimental profiles, the ONETWO results, and the TGYRO-TGLF results, more discriminating validation metrics can be devised.

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