

Abstract Submitted  
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**Visualization and Analysis Tools for Next-Generation Tokamak Fusion Devices** ROBERT KASTNER, SULI (PPPL); Princeton University, CHARLES KESSEL, R.J. HAWRYLUK, ELIOT FEIBUSH, PPPL, MATTHEW MILANO, SULI (PPPL); Brown University, BEN PHILLIPS, SULI (PPPL); Cornell University — Recent studies of tokamak fusion nuclear science facilities, which could achieve net electricity generation, have involved searching a rich parameter space for optimal reactor characteristics using a 0-D systems code. Large amounts of data were generated, on the order of one hundred million different sets of reactor parameters. The systems code has been interfaced with PPPL's visualization program called ElVis and tools have been developed to handle large amounts of data. This work has motivated further development of ElVis, allowing it to accommodate the systems code output data. ElVis enables a user to make arbitrary plots of different reactor parameters. The data manipulation and graphing capability has enabled the review of a large number of viable operating points, the observation of trends and the identification of desirable operating points. This will enable a study of the impact of enhanced physics and technology on the operation of a power plant that produces net electricity. This work is supported by U.S. DOE Contract #DE-AC02-09CH11466.

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