Providing Complete Distribution Function Analysis with NUBEAM FGen CASEY STARK, University of Southern California, DOUGLAS MCCUNE, ELIOT FEIBUSH, PPPL — The TRANSP libraries provide many robust tools for analyzing tokamak plasmas. The development of this long-standing code has focused on physics modeling and producing efficient plasma calculations. In order to make these powerful libraries accessible to more scientists, parts of the code have been incorporated into web services, which can be run using the ElVis scientific graphics display. We present NUBEAM FGen, a new graphical web service interface focusing on distribution function (DF) simulation and analysis now integrated into ElVis. This interface can acquire TRANSP run data and given simulation parameters (a time of interest, duration, number of particles, etc.), will run a NUBEAM simulation on extracted Plasma State files. This simulation outputs the full distribution function in energy, pitch, x, and theta space. The user can analyze the DF data with an interactive get_fbm session, allowing them to visualize the DF with various plots (contour, slice, 3D, etc.). Users can also download the output for their own processing. The ease of this new approach to DF analysis will allow a much wider audience to utilize the DF tools provided by TRANSP in their own research.

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