Abstract Submitted
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On the Analysis of HHFW Heated Plasmas in NSTX[1] B.P. LEBLANC, R.E. BELL, PPPL, L.A. BERRY, ORNL, P. BONOLI, PSFC-MIT, D.L. GREEN, ORNL, R.W. HARVEY, CompX, J.C. HOSEA, E. MAZZUCATO, C.K. PHILLIPS, A.L. ROQUEMORE, PPPL, P.M. RYAN, ORNL, G. TAYLOR, J.R. WILSON, PPPL, J. WRIGHT, PSFC-MIT, H. YUH, Nova Photonics — Recent developments in the HHFW research program include a better understanding of edge effects that has enabled improved heating, leading to Te $\sim$ 5 KeV, and installation of an upgraded antenna that should nearly double power delivery. While the time-dependent analysis of a HHFW-only discharge can be simulated using the TORIC module in TRANSP, a self consistent treatment of the fast ion evolution during combined HHFW and NBI heating is not yet possible because the computed power deposited into the fast ions is not transferred into the fast particles via Fokker-Planck calculations. To remedy this problem we intend to use CQL3D with wave fields from the GENRAY, AORSA or TORIC codes to evolve the fast-ion distribution at a given time-slice. Combining these results with TRANSP should improve understanding of the behavior of the fast ions during HHFW heating.

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