Abstract Submitted
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Recent Results and New Directions of the HSX Program[1] D.T. ANDERSON, F.S.B. ANDERSON, A.R. BREISEMEISTER, E. CHLECHOWITZ, C. CLARK, C. COOK, L. HURD, K.M. LIKIN, J. RADDER, J.C. SCHMITT, L. STEPHEY, J.N. TALMADGE, G. WEIR, R. WILCOX, K. ZHAI, HSX Lab UW-Madison, D. BROWER, C. DENG, UCLA — Intrinsic rotation velocities of up to 20 km/s in the symmetry direction have been measured with the ChERS system and compared to the PENTA code. Flow velocity increases with increasing ECH power while density fluctuations and frequency on the interferometer decrease. The second ECH source is now operational. Reflectometry is now being used to measure density fluctuations and being upgraded to a Doppler system. Reynolds stress calculations are made using probe data. ECH distribution function modifications are calculated with the GNET code and used to help model ECE. Laser blow-off experiments have begun for impurity transport. Particle transport at B=1T is being studied with expanded H-alpha arrays and DEGAS2. SIESTA is being modified to handle more diverse forms of equilibria. The edge field structure in HSX is being re-examined for potential new divertor studies. Magnetics diagnostics show a helical Pfirsch-Schluter current and used for V3FIT reconstruction. Studies are underway to optimize design of magnetic diagnostics for improved reconstruction.

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