

Abstract Submitted
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Heat Load on Divertors in NCSX¹ T.B. KAISER, University of California, Lawrence Livermore National Laboratory, D.N. HILL, LLNL, R. MAINGI, ORNL, D. MONTICELLO, M. ZARNSTORFF, PPPL, A. GROSSMAN, UCSD — We have continued our study[1-3] of the effect of divertors in NCSX, using magnetic field data generated by both the PIES and VMEC/MFBE equilibrium codes. Results for comparable equilibria from the two codes agree to within statistical uncertainty. We follow field lines from a surface just outside and conformal with the LCMS until they strike a divertor plate or the first wall, or exceed 1000m in length, with effects of particle scattering mimicked by field-line diffusion. Current candidate divertor designs efficiently collect field lines, allowing fewer than 0.1% to reach the wall. The sensitivity of localized power deposition, assumed to be proportional to the density of field- line strike-points, to adjustments in the divertor configuration is under investigation.

1. T.B. Kaiser, et al, Bull. Am. Phys. Soc., 48, paper RP1-20, 2003.
2. T.B. Kaiser, et al, Bull. Am. Phys. Soc., 49, paper PP1-73, 2004.
3. R. Maingi, et al, EPS Conf. Rome, Italy, paper P5.116, 2006.

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