n Invited Paper
96 Meeting of
Physical Society

Detached Divertor Plasmas in the DIII–D Tokamak[1]

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spatial profiles of divertor plasma density, temperature, and litions in which there is a strong reduction in plasma pressure off layer (Partially Detached Divertor). This regime is desirable by up to a factor of 10 by the increased radiation, thus allowing ITER. The data presented here are obtained using a newly cally optimized for measuring the high electron densities and s ($n_e \leq 10^{21}\,\mathrm{m}^{-3}$, $0.5\,\mathrm{eV} \leq T_e$). These data are correlated with muir probes, VUV spectrometers, bolometers, and visible-light nearly constant along field lines in attached plasmas, consistent n the divertor increases the plasma radiation and lowers T_e to this temperature is low enough to allow ion-neutral collisions, nt roles in reducing the electron pressure along the magnetic ese temperatures, molecules may also be present in significant asheninnikov, et al., J. Nucl. Mater. 1996). Farther out in the an those on the same flux surface at the midplane, so only part V spectroscopy and 2-D images of impurity emission show that radiation in the upper divertor regions near the X-point, and ormity of radiated power density within a factor of 2 along the was obtained. Similar heat flux reduction was observed when losses and reduce the energy transport in the SOL plasma. A mulations with the UEDGE code will also be discussed.

Contract Nos. W-7405-ENG-48 and DE-AC03-89ER51114.