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Reanalysis of TFTR DT discharges ROBERT BUDNY, Princeton University, retired — Extensive experiments were conducted in TFTR with deuterium and tritium plasmas 1993 - 1997. We report results from recent reanalysis updating previous results using the TRANSP integrated analysis code. The purpose is to better understand neutral beam injection (NBI) effects in DT plasmas. These results are relevant to upcoming JET DT experiments, and to improve understanding of Toroidal Alfven mode effects seen in TFTR. Improvements to the TRANSP code since the early analysis include more comprehensive and accurate atomic physics data, improved Monte Carlo simulation of fast ion parameters, and improved equilibrium solutions. The D and T species mix in the NBI correlates with the core ion and electron temperatures, the thermal hydrogenic isotopic mix, and the energy confinement times. The shape of the carbon density was well diagnosed, but shapes of other impurities were not measured. We discuss evidence that in the core early in the NBI phase Z_{eff} is lower than that implied by only the carbon density (consistent with dilution from Li injection) and higher late in the NBI (consistent with higher Z impurities accumulating). Comparisons of NBI and alpha heating are discussed.

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