

Abstract Submitted
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Non-Local Thermodynamic Equilibrium Modeling of Tungsten Plasma¹ MATTHEW FOSTER, J. ABDALLAH JR., J. COLGAN, Los Alamos National Laboratory, Theoretical Division — Controlled fusion tokamaks such as ITER present challenging theoretical plasma modeling issues. Since the divertor region of ITER will be coated with tungsten, accurate collisional-radiative (CR) models are required to understand the high radiative power losses associated with tungsten. The energy loss due to radiative processes for high- Z ions can be critical in understanding the ionization balance of the plasma. We present non-local thermodynamic equilibrium (non-LTE) calculations for a tungsten plasma using the Los Alamos National Laboratory suite of atomic codes. We examine the radiated power losses and ion balance distributions for a variety of electron temperatures ranging from 2 keV to 30 keV and densities associated with conditions found in ITER.

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