Neoclassical calculations for W7-X OP1.1 parameters MATT LAN-
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WINDISCH, D ZHANG, IPP Greifswald, W7-X TEAM — Neoclassical calculations
are carried out for W7-X OP1.1 plasmas with the SFINCS code, using experimental
profiles of n_e, T_e, and T_i. An electron root solution is found in the inner part of the
plasma, consistent with measurements. Calculations are performed using a variety
of assumptions for the plasma's impurity composition. Impurities modestly reduce
the bootstrap current, and if a flat Z_{eff} profile is assumed, the impurity particle flux
profile resembles the E_r profile due to dominance of the associated thermodynamic
force. Variations of quantities on flux surfaces computed with SFINCS are also pre-
sented. The incompressible-ExB approximation is found to be quite accurate for
W7-X parameters.

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