

Abstract Submitted
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Initial observations on core transport in W7-X island divertor plasmas NOVIMIR PABLANT, Princeton Plasma Physics Laboratory, FOR THE W7-X TEAM — The current campaign of the Wendelstein 7-X (W7-X) stellarator, specified as OP1.2a, features the first operation with an island divertor and a completed carbon first wall. With the completion of the divertor, and recent upgrades to the ECRH heating system, higher temperatures and densities are expected than previously available during the first campaign (OP1.1), which featured a limiter plasma. After completion of wall conditioning, plasmas with $T_e \sim T_i$ are expected to become accessible, allowing the investigation of plasma performance in the ion-root regime. Initial investigations of core transport in the W7-X island divertor are reported, along with measurements of the radial electric field. Measurements of temperature, density and radial electric field are compared at similar ECRH input powers between the island divertor plasmas from OP1.2a and the limiter plasmas from OP1.1.

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