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Particle-Based Model of Plasmadynamics in ITER-Prototype Negative Ion Source

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This work represents a detailed numerical simulation of the ITER-prototype negative ion source. The numerical model is based on Particle-in-Cell / Monte Carlo Collision (PIC-MCC) methodology to study production, transport and extraction of all charged particles (electron, positive and negative ions) in a self-consistent electric field (magnetostatic approximation). The effect of grid biasing and gas isotope (hydrogen/deuterium) have been investigated.

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