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Simulation of an ECR Argon Plasma

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Argon plasma behavior in a 2.45 GHz electron cyclotron resonance (ECR) plasma reactor is studied by means of a finite element software "COMSOL". Using a multi-physics approach, we have simulated the magnetic field distribution, the microwave power deposition and the plasma properties such as potential, density, temperature etc. We report some results on investigation of the effects of various control parameters such as magnetic field configuration, microwave power and gas pressure on the Argon ion density distribution as an important character in ECR plasma ion sources.

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