

High energy plasma in vacuum system generated by microwave surfatron generator surfatron resonator i

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With the continued down scaling of devices and structure changed to 3-dimensional, new engineering processes are in great demand. Microwave surfatron plasma is considered new plasma source because it enables very low-temperature deposition and good quality due to its low electron temperature and higher plasma density. For adopting surfatron plasma source to new vacuum chamber, it is essential to understand the physical properties of generated plasma with the varying gas atmosphere. Also we are requested to achieve acceptable homogeneity on large area. Thus, in this work, we investigated plasma parameters with various gas, pressure, flow and various distances from the plasma outlet with optimized design of plasma nozzle.

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