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A simulation study of the axially extracted vircator with ring type reflector in the waveguide

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Virtual cathode oscillator(vircator) with microwave reflector was investigated by numerical simulation with a 3-dimensional particle-in-cell (PIC) code, MAGIC. Prior to simulate the vircator with ring type reflector, simulation of axial vircator without reflector was performed. In the optimized diode structure and anode-cathode gap distance for maximizing the output microwave power, ring type reflector was installed behind anode-mesh. In case of installed reflector in the virtual cathode region, output microwave power was more increased than that of vircator without reflector while mode and frequency of output microwave had little change.

[References]

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