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Development of a Microwave Ion Source for Ion Implantations

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A microwave ion source is expected to be a long-life ion source, because of fewer consumable. Thus, we have been developing a microwave ion source for ion implantations. In this paper, we report on a newly developed plasma chamber and the extracted P⁺ beam currents. The volume of the plasma chamber is optimized by changing the length of a BN cylinder which is installed in the plasma chamber. The extracted P⁺ beam current is more than 30mA, 25kV using PH₃ gas.