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## **Compact Monoenergetic Proton Generator in MeV Region Using NANOGAN**

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For simple applications, such as the calibration of a charged particle detector, a multi-MeV proton generator may be preferable to cyclotrons or electrostatic accelerators such as Van de Graaff generator. Thus, a compact proton generating system, consisting of 10Ghz ECR ion source NANOGAN and a deuteron target, was developed at the Research Center for Nuclear Physics at Osaka University. A  $^3\text{He}^{2+}$  beam was generated by the NANOGAN with the acceleration voltage of 20-40 kV in an experiment that utilized the fusion reaction  $^3\text{He} + \text{deuteron (D)} \rightarrow \text{proton(P)} + ^4\text{He}$ . The monochromatic protons with energies of 14.67 MeV were successfully obtained at the atmosphere side of the target in the experimental setup, when a novel target base with a thin metal foil and Polyimide film window are used.

### **Funding Agency**

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Yes

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