

2. T. Furukawa et al., Tokyo Univ. of Agri. Tech., Plasma Acceleration by Rotating Magnetic Field Method using Helicon Source.
3. S. Nishimura, Tokyo Univ. of Agri. Tech., Electrodeless Plasma Acceleration Using $m = 0$ Coil.
4. T. Yamase et al., Tokyo Univ. of Agri. Tech., High Frequency, Low Pressure, Plasma Generation using Extremely Small Diameter Tube. (in this presentation)

Abstract Submitted
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High Frequency, Low Pressure, Plasma Generation using Extremely Small Diameter Tube TOMOYA YAMASE, HIROTAKA HORITA, Tokyo Univ. of Agri. Tech., DIBYESH SATPATHY, KIIT Univ., India, DAISUKE KUWAHARA, SHUNJIRO SHINOHARA, Tokyo Univ. of Agri. Tech. — Electrodeless electric propulsion method has a very long life compared with conventional electric propulsion method, because electrode and plasma do not have a direct contact each other, leading to no wear of the electrode [1]. In addition, miniaturization of the plasma generation unit is desired as one of important propulsion objectives. The generation of electrodeless plasma in a quartz tube with an inner diameter down to only 3 mm has already been succeeded by changing rf frequency, but there remains a problem of a high pressure (Lower limit 100 Pa range) operation [2]. Therefore, plasma generation under lower pressure (Lower limit 2 Pa range) by improving the experimental setup external parameters were performed. Here, the plasma characteristics was investigated, using the SHD device [3]. Furthermore, rf plasma generation has been performed with a diameter of only 1 mm. [1] S. Shinohara et al., IEEE Trans. on Plasma Sci. 42 (2014) 1245. [2] T. Nakagawa et al., Plasma Fusion Res. 10 (2015) 3401037. [3] D. Kuwahara et al., Rev. Sci. Instrum. 84 (2013) 103502.

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Tech.