

# Comparison of the MCP and Soft X-ray CCD detectors in EUV spectroscopy in Heliotron J

(ヘリオトロン J における EUV 分光に対する MCP 検出器と軟 X 線 CCD 検出器との比較)

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Abstract:

EUV spectroscopy has been applied to study impurity behaviors in fusion relevant magnetic confinement plasmas. In Heliotron J, spatial distribution of impurity spectra of Oxygen, Iron, Carbon etc. was measured using the EUV spectrometer. The region of measured spectra data is around 16 - 39 nm. We have used the MCP (Micro Channel Plate) with NMOS linear sensor for years as an established method [1]. We have recently replaced it with a Soft X-ray CCD having higher quantum efficiency, aiming at the better dark noise spectrum and higher temporal resolution. In this research, we made assessment of Soft X-ray CCD in comparison with the previous MCP-based detector.

[1] H. Arimoto *et al.*, J. Korean Phys. Soc. 49, S165 (2006).