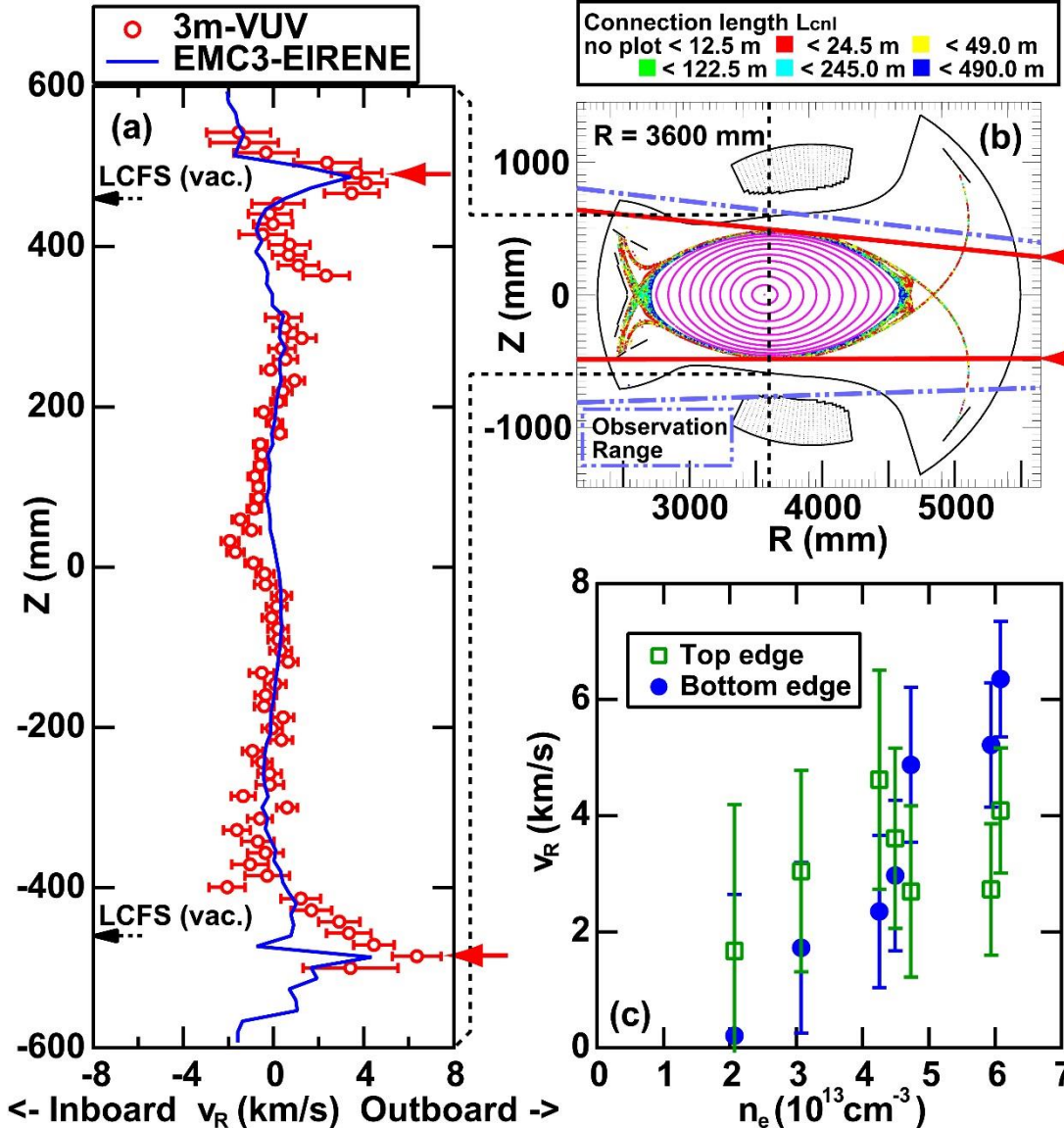


# Observation of Carbon Impurity Flow in the Edge Stochastic Magnetic Field Layer of Large Helical Device and its Impact on the Edge Impurity Control

EX/7-2: Tetsutarou OISHI (NIFS) *et al.*



- Vertical profiles of VUV lines from impurities emitted in the ergodic layer of LHD were measured by a space-resolved VUV spectroscopy.
- **Flows of  $\text{C}^{3+}$  impurity ions** were derived by Doppler shift of the CIV spectra with a wavelength of  $1548.20 \times 2 \text{ \AA}$ .

Results:

- (1) Carbon flow at the top and bottom edges in the ergodic layer has the same direction toward outboard side along the major radius direction.
- (2) Observed flow quantitatively agrees with simulation result calculated with a three-dimensional simulation code, EMC3-EIRENE.

→ It experimentally verifies the validity of **edge parallel flow driving the impurity screening** at the first time in fusion plasma experiments.