Space-resolved VUV and EUV spectrometers

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1. Purpose / Application

[1] Vertical profiles and two-dimensional distributions of edge and core VUV and EUV emissions

[2] Vertical profile of edge T_i and flow

[3] Spectral shape (absorption effect, Stark effect)

2. Name of analysis (Kaiseki) data / module of MyView2

none

3. General Description (Port, field line, time resolution, spatial resolution, number of channels, etc.)

3.1. Space-resolved 3m VUV spectrometer system

-Wavelength range: 300-2000Å.

- Time resolution: 20-200ms
- Observation area: $1.2m^{V}x0.5m^{H}$.
- Spectral resolution: 0.15 Å at entrance slit width of 20μm.

3.2. Port assembly

- #10-O port (see Fig. 1)
- High-spatial resolution mode with edge vertical observation: use of space-resolved slit
- Low-spatial resolution mode with full vertical observation: use of space-resolved slit and mirrors

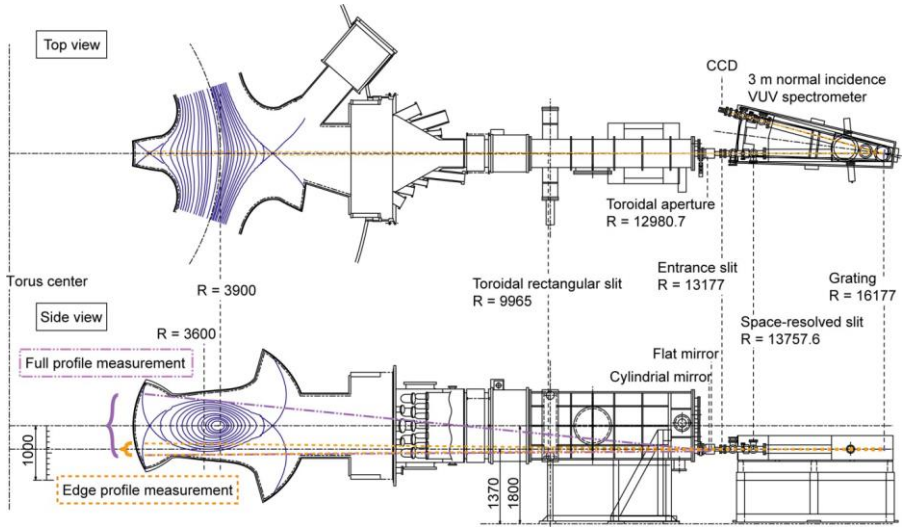

Figure 1 Viewing chords of space-resolved 3m VUV spectrometer system.

3.3. Space-resolved EUV spectrometer systems

-Wavelength range: 10-600Å.

- Time resolution: 50-200ms

- Observation area: $1.2m^{V}x0.5m^{H}$.

3.4. Port assembly

- #10-O port (see Fig. 2)

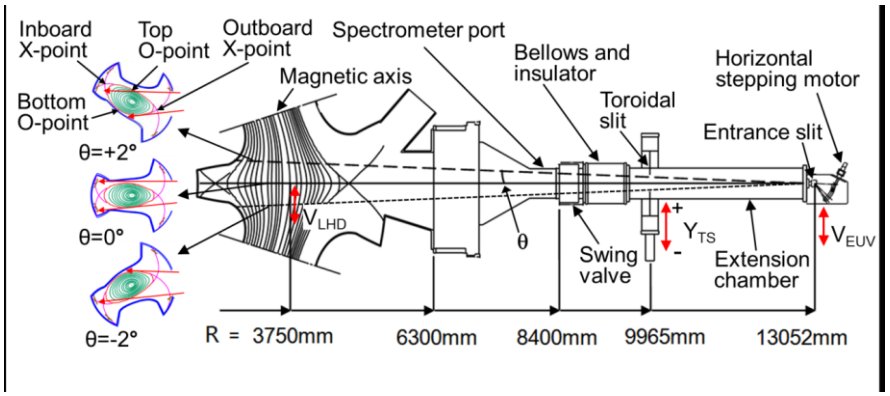

Figure 2 Viewing chords of space-resolved EUV system.

4. Requirement in use

- Before experiment: opening swing and gate valves, turning on power supply and setting CCD parameters

-After experiment: closing valves and turning off power supply

5. Description of analysis (Kaiseki) data / module of MyView2

none

6. Others

- Example of full vertical profiles of (a) line intensity and (b) T_i from CIV at 1548.20 × 2 Å (see Fig. 3).

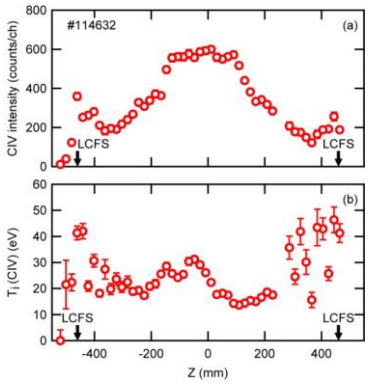

Figure 3 Full vertical profiles of (a) line intensity and (b) T_i from CIV at 1548.20 × 2Å.

- Example of vertical profiles of impurity spectral lines (see Fig. 4).

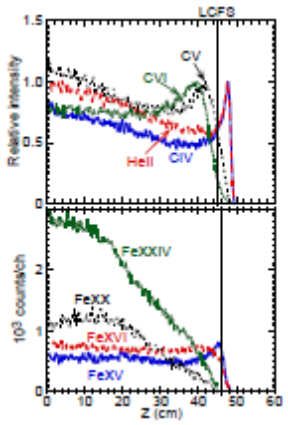

Figure 4 Vertical profiles of impurity line emissions from EUV systems.

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and others