Results from measurements made in the pedestal region with the CXRS diagnostics on Alcator C-Mod

K. Marli, B. Lipschultz, R. McDermott, D. Whyte, B. Labombard, J. Hughes, A. Grafe, N. Smick

1. MIT Plasma Science & Fusion Center, Cambridge, MA 02139, USA
2. University of California at Davis, Davis, CA 95616, USA

Supported by USDoE award **DE-FC02-99ER54512

1. Diagnostic description

The ability to measure impurity flow and temperature profiles with exchange change techniques (EHT) is a result of the high-field side (HFS) and low-field side (LFS) of Alcator C-Mod. The 2007 campaign on the exchange change spectrometry diagnostic has been augmented for better spatial and temporal resolution for the pedestal region of the plasma. The top view is near the separatrix where the density forms a steep gradient line.

The diagnostic utilizes injected material at the high-field (HFS) at room temperature, energy) and low-field side (LFS) of Alcator C-Mod. Measurement in certain regions of the pedestal. [1,2]

2. Low-Field Side

2.1 High-Field Side

2.2 Low-Field Side

3. Investigation of velocities and $\nu_T$ at the HFS pedestal

2.2.1 X-ray Profile Viewings Structures for flows of $\nu_T$

2.2.2 Experimental test of the neoclassical theory with one of the most advanced CXRS measurements in the world. The 2.2.3 Pedestal Velocity Profiles

3.1 Test of neoclassical predictions for velocity on a flux surface.

4. Summary and conclusions

Reduction of footnotes

The following plots show more velocity comparisons for the L- and H-mode. Three different and combined results obtained from the same discharge.

**Footnotes:**

[1] Supported by USDoE award **DE-FC02-99ER54512

[2] The following plots show more velocity comparisons for the L- and H-mode. Three different and combined results obtained from the same discharge.

**Footnotes:**

[1] Supported by USDoE award **DE-FC02-99ER54512

[2] The following plots show more velocity comparisons for the L- and H-mode. Three different and combined results obtained from the same discharge.

**Footnotes:**

[1] Supported by USDoE award **DE-FC02-99ER54512

[2] The following plots show more velocity comparisons for the L- and H-mode. Three different and combined results obtained from the same discharge.

**Footnotes:**

[1] Supported by USDoE award **DE-FC02-99ER54512

[2] The following plots show more velocity comparisons for the L- and H-mode. Three different and combined results obtained from the same discharge.

**Footnotes:**