

Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

Intrinsic Toroidal Rotation Reversal Comparison between TCV and CMOD B.P. DUVAL, A. BORTOLON, CRPP-EPFL, CH-1015 Lausanne, Association Euratom-Confédération, Switzerland, J. RICE, M. REINKE, PSFC-MIT, Boston, USA, R. MCDERMOTT, IPP-Garching, Germany — Toroidal reversal was observed on the TCV tokamak using a CXRS system with a diagnostic beam that did not perturb the plasma motion. Support experiments were performed on CMOD where the core rotation is measured with an X-ray imaging spectrometer and edge CHEERS so the measured rotation may again be considered “intrinsic”. Rotation reversal was observed on both machines when $q \sim 3$ across a density ramp. The plasma shape used on CMOD was repeated on TCV and the toroidal rotation for this marginally diverted discharge shows behavior similar to limited discharges on TCV. This paper will report the diagnostic measurements including preliminary PCI turbulence data that does not indicate a strong role of turbulence for rotation reversal as suggested by several theoretical approaches. In both machines there is evidence that the change in torque can not be entirely attributed to changes in the plasma edge necessitating a model that applied torque directly to the plasma bulk.

Ambrogio Fasoli

Date submitted: 20 Jul 2009

Electronic form version 1.4