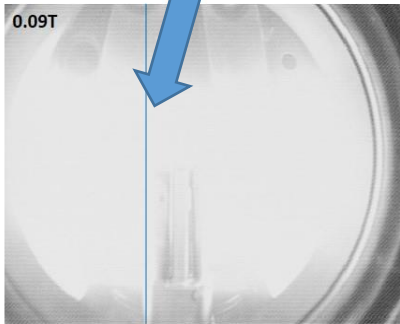


Fast Wave induced ICRF plasma Expansion in ADITYA Torus

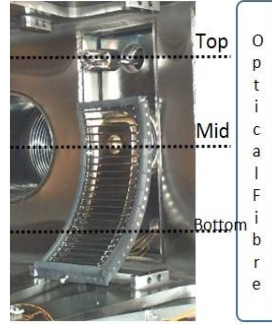
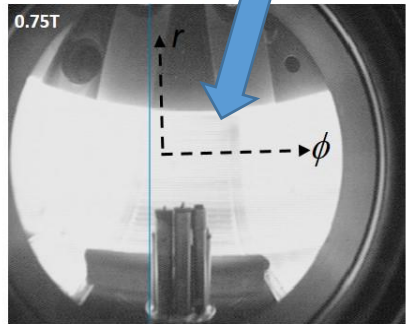
By Kishore Mishra *et al.*

- Plasma homogeneity is desirable for effective wall conditioning and uniform coating on fast wall of ITER and Fusion Machines
- Usual ICRF Plasma is localized near resonance or antenna
- An effect of Fast Wave suddenly propagating at a critical $B_t \rightarrow$ leads to plasma fills up the torus.
- This may be useful for uniform wall coating in permanent field machines.

Expanded at critical B_t

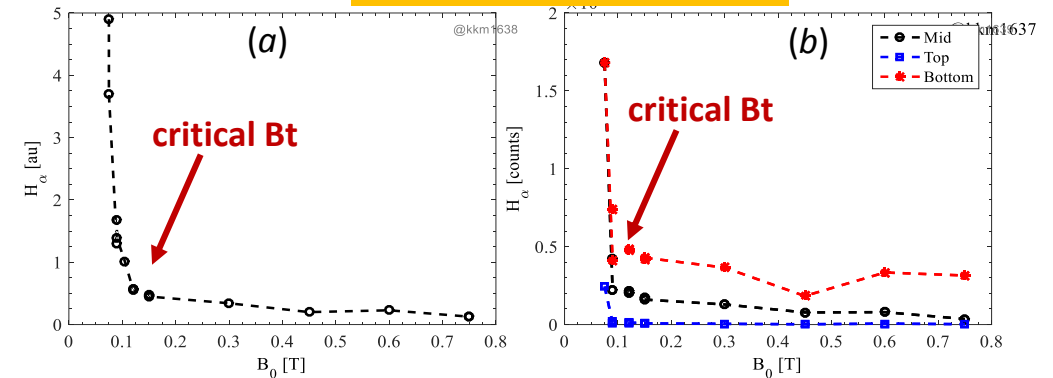


Confined near outer wall

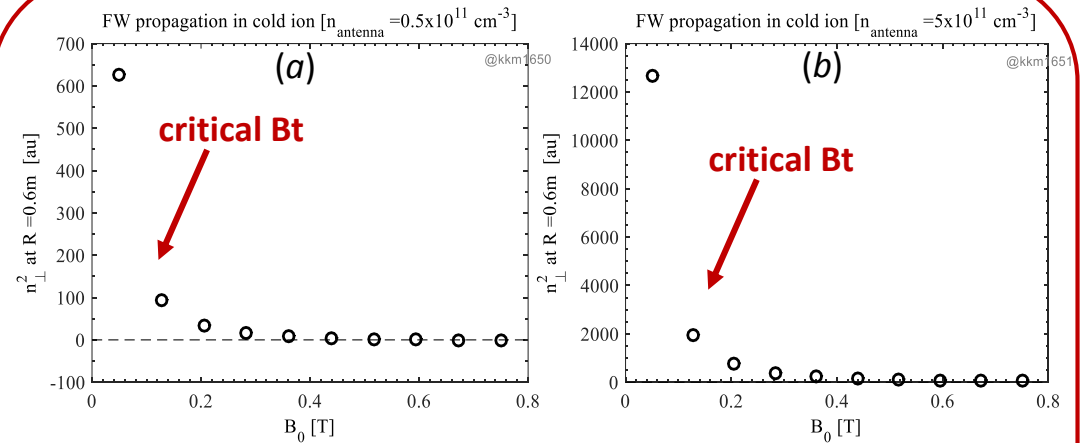


Top CCD camera shows plasma fills up the whole torus at critical B_t , when FW starts propagating. At high $B_t = 0.75$ T, plasma is only confined near the outboard wall at antenna location.

Experimental Observation



Plasma starts a sudden expansion at a critical $B_t = 0.1$ T



Fast Wave is propagating only below the critical B_t from dispersion relation. Experimental observation agrees well

Theoretical Calculation