LEAK WIDTH IN A MULTI-CUSP FIELD CONFIGURATION
A Revisit with a Versatile Experimental device

- The paper presents results of plasma confined in Multi-line cusp magnetic field geometry.
- Leak width scaling with magnetic field is discussed and the loss area is compared for plasma confined in full line and broken line cusp geometries.
- Decrease in leak width with increasing magnetic field strength is observed in MPD. As the leak width decreases plasma density increases, supporting the reduction in plasma loss as plasma follows the field lines.
- Plasma confined in full line cusp configuration (FLCC) has six loss cones or paths for plasma to escape towards wall and in broken line cusp configuration (BLCC) it has twelve loss cones. Plasma has more number of loss regions in BLCC and as table shows the leak area is also more in BLCC than FLCC.
- The paper reports decrease in leak width with increasing magnetic field strength and improvement of plasma confinement. Full line cusp configuration is more recommended over broken line configuration for less number of paths of plasma leakage along the field lines and much less leak width than BLCC.