

# Overview of SST-1 Up-gradation and Recent Experiments in SST-1

## (OV/4-3Ra)

- Steady State Superconducting Tokamak (SST-1) has been up-graded with graphite based First Wall Components.
- Engineering validations of the up-graded SST-1 has been completed and initial plasma experiments have begun in SST-1 after a detailed investigation of eddy characteristics, magnetic NULL, ECH induced break down, equilibrium index optimization etc.
- SST-1 Circular plasmas have attained in excess of 100 kA with typical core density  $\sim 1 \times 10^{19} \text{ m}^{-3}$  and core electron temperatures  $\sim 200\text{-}300 \text{ eV}$  having duration in excess of 300 ms corresponding to  $q_{\text{edge}} \sim 2.6$ .
- SST-1 plasma shows typical MHD characteristics, NTM & island growth characteristics.
- Recent experimental results also show that the electrostatic turbulence is modulated by MHD activity during SST-1 tokamak discharge. Some large-scale coherent structures have been observed indicating the long-distance cross correlation in the poloidal direction.
- SST-1 will now plan for  $> 1 \text{ s}$  long plasma with appropriate controls and would focus on confinement and edge plasma transport characteristics apart from disruption mitigation studies in high aspect ratio configurations.