The first Indian tokamak ADITYA tokamak (a=25 cm, R=75 cm) with limiter configuration, has recently been upgraded to ADITYA-U with diverter configuration and an additional graphite toroidal belt limiter.

After successful commissioned of ADITYA-U, hydrogen gas breakdown has been achieved in more than 2000 discharges including Phase-I and Phase-II operation without a single failure.

Improved discharges are attempted over a wider parameters range suitable for different experiments have been carried out in the ADITYA-U Phase-I and Phase-II operations. In this paper we provide operational aspects and overview of some experiments performed on ADITYA-U.

Successful development and implementation of real time position control in Phase-II operation.

Achieved wider pressure window and significant reduction in runaway electrons (REs) in ADITYA-U tokamak as compared to ADITYA tokamak.

The chord average electron density boost up $\sim 4 \times 10^{19} \text{ m}^{-3}$ corresponding to central peak density of $\sim 6.7 \times 10^{19} \text{ m}^{-3}$ has been achieved for the first time in ADITYA-U by sonic hydrogen puffing.

Analysis of drift tearing mode dominated discharges reveals presence of multiple harmonics.

Observation of MHD frequency and amplitude modulation due by periodic gas puffs.

Evidence of dominant role of MHD in REs loss in experiments with MHD amplitude modulated by periodic gas puffs.

Significant reduction of REs by application of SMBI has been observed in few discharges.

Radiative improved modes with Neon gas injection has been achieved and studied in ADITYA-U.