

# Sampurnanand Telescope

# Optical

October 27, 2022

**In news-** The 104 cm Sampurnanand Telescope (ST), a world-class telescope located near Nainital, at a workshop organised to commemorate the completion of 50 years of successful operations of the telescope

## **About the telescope-**

- The 104-cm Sampurnanand Telescope, **situated at Aryabhata Research Institute of Observational Sciences (ARIES), Manora Peak in Nainital** is one of the the main observing facilities in optical domain.
- ARIES is functional under the Department of Science and Technology.
- **It was installed in 1972 by Carl Zeiss**, Germany at the then UP State Observatory (UPSO).
- The telescope gets its **name after Dr Sampurnanand, educationist and former chief minister of Uttar Pradesh**.
- It has been extensively used for optical observations of comets, occultation by planets and asteroids, star-forming regions and star clusters, variable stars, transients, active galactic nuclei, etc.
- With improved computational support, Sampurnanand today generates about 50 to 100 Gigabytes (GB) of data per night of observations.
- Except during the monsoon season when they are safely parked, all telescopes owned by ARIES are operational around the year.
- This pristine site enjoys 200 days of clear sky viewing in a calendar year.

## **Breakthrough science results-**

- Some of the **breakthrough science results** contributed by the telescope include the **discovery of new rings around**

## **Saturn and the rings of Uranus.**

- The instrumentation and science capabilities of ST have paved the way for setting up National and International facilities by ARIES, such as the 3.6m DOT and the 4 meter International Liquid Mirror Telescope at Devasthal.
- First detection of optical afterglows of Gamma-ray-bursts (GRBs) and micro-lensing event from Indian soil.
- The first photoelectric observations of stars from Indian soil were obtained at the institute.
- The discovery of quakes in a half dozen of stars under 'The Nainital-Cape Survey', the one of the longest and unique ground based surveys initiated jointly at the northern and southern hemispheres.