

GIANT TELESCOPE BY YEAR-END

A Rs. 50-million giant optical telescope designed and fabricated by scientists of the Indian Institute of Astrophysics, Bangalore will be ready for scanning the stars by the end of this year.

The wholly indigenous telescope, — the largest in Asia — will provide data from the skies and the galaxies to enable astronomers to improve their understanding of stellar origin and evolution.

The director of the institute, Dr. J. C. Bhattacharya told PTI Science Service that India was the first developing country to embark on such a venture in astronomy.

The telescope would be mounted at the observatory at Kavalur in Tamil Nadu where scenic conditions are the best in the world.

When first conceived in 1976, the telescope was estimated to cost only Rs. 26 million. It has a mirror of 2.34 metre diameter. The mirror which is being ground and polished at the institute, is 40 cm. thick and weighs 3.5 tonnes. The entire telescope would weigh nearly 100 tonnes, Mr. S. C. Tapde, project manager said.

Tapde said the mirror surface demands a very high level of accuracy. The level difference between any two points should not be more than one hundredth of a micron in the theoretical parabola.

A Rs. 10-million computer or-

dered from the U.S. for gathering, storing and automatically analysing data got from stargazing has already been shipped from the US, he said.

The computer will also control the telescope for automatically pointing it to a given star or galaxy.

Tapde said the telescope is primarily for studying the distant galaxies and star clusters and would contribute to basic research in astrophysics.

It would help the study of the spiral structure of our galaxy, particularly the unexplored portions visible from the Southern Hemisphere.

It would also give a better understanding of the morphological aspects of external galaxies, their chemical composition parameters and their bearing on stellar evolution.

Kavalur, which maintains a cloud-less sky for most of the year, has been chosen because of its excellent scenic conditions.

The machine for grinding the mirror was made by a firm at Ahmedabad according to given specifications.

In another programme, the Department of Space has sponsored the preparation of a satellite based infra-red telescope which would help astronomers and other scientists look at known and unknown stars and other objects in the celestial sphere from their respective laboratories.

The infra-red telescope of 1.22

m diameter is taking shape at the Physical Research Laboratory, Ahmedabad. It will be installed at Gurushikar atop Mt. Abu by the end of next year.

This telescope is computer controlled and has all modern facilities like image processing and fast exchange of high speed data communication.

To utilise the modern communication facilities, the Mt. Abu infra-red telescope has been specially designed with those features which could adopt communication through various channels, remote or local, according to Mr. H. S. Mazumdar, a computer specialist of the PRL.

Mazumdar told PTI Science Service that PRL would also make use of the low cost roof top satellite terminals at Gurushikar for communication purposes through its communication computer to PRL terminal computer and vice-versa. With the facility of image processing system, the satellite and its communication facility, point to point communication among different observers of the telescope observatory could be done. Also the image of the celestial objects could be viewed to a good resolution on television.

Besides PRL, two more agencies are associated with the infra-red telescope project. They are the Indian Institute of Astrophysics, Bangalore and Sriharikota Space Centre.