

Kavalur comes of age



This picture of Halley's comet was taken from a 40-inch telescope at the Kavalur observatory of the Indian Institute of Astrophysics.

By A Staff Reporter

BANGALORE, January 19:

KAVALUR, a sleepy hamlet nestling amidst the Javadi hills in Tamil Nadu, had a tryst with astronomy 18 years ago when a small 38 cm home-made telescope was installed at the observatory of the Indian Institute of Astrophysics there.

With the commissioning of the 2.3 metre sophisticated telescope recently by the Prime Minister, Mr Rajiv Gandhi, the Kavalur observatory has come of age. The new telescope, Asia's biggest, has opened the doors for the Indian astronomers to new horizons in cosmos. The telescope, a brain-child of Dr Vainu Bappu, a former director of the institute, has been named after him. It has already started looking at the skies. The computer-controlled telescope will be busy in the next two months observing the celestial visitor—Halley's comet.

The Kavalur complex situated on a 100-acre plot has an array of telescopes, including one indigenously made. The "old one" of the complex is a small 38 cm telescope made in the backyards of the Kodaikanal observatory using a mounting borrowed from a 90-year old telescope. Regular observations began at Kavalur with this telescope way back in 1968. After this a number of telescopes with varying apertures was added to the complex. While the 2.3 metre telescope is the precious pos-

session of the observatory, another prestigious telescope at the complex is a pigmy six-inch instrument. This has an interesting story behind it. This telescope was presented to one Mr R.G. Chandra, an employee of the district collector's office in Jessore (now in Bangladesh) at the turn of the century by the American association of variable star observers. When Mr Chandra wanted to return the telescope to the association in his old age, it was presented to a young astronomer from Hyderabad. He was none other than Dr Bappu himself.

The development of the observatory did not end with just adding telescopes. The Kavalur complex has played a major role in astronomical findings during the 18 years of its chequered history. In 1971, the scientist of Kavalur found that Jupiter has a layered structure; they used a 38 cm telescope. The observatory again used the "star occultation" technique to find out that Jupiter's satellite, Ganymede, has a very thin atmosphere. This was in 1972. Later, the Kavalur observatory again hit international headlines when the scientists led by Dr Bappu discovered the rings around Uranus. This was observed during occultation of a star by Uranus. The findings became a controversy as the international community of astronomers, particularly those from the western nations, refused to accept initially that Indians could do it. They contended that an American astronomer, Mr J. Elliot,

has discovered the rings first. The Indian astrophysicists of Kavalur contested this saying that they were the first to give out details about the rings. In 1984 an important observation by a team led by Ms Vasundra of the institute on the outer rings of Saturn was again made from Kavalur. This again met with similar scepticism from the western world of astronomers.

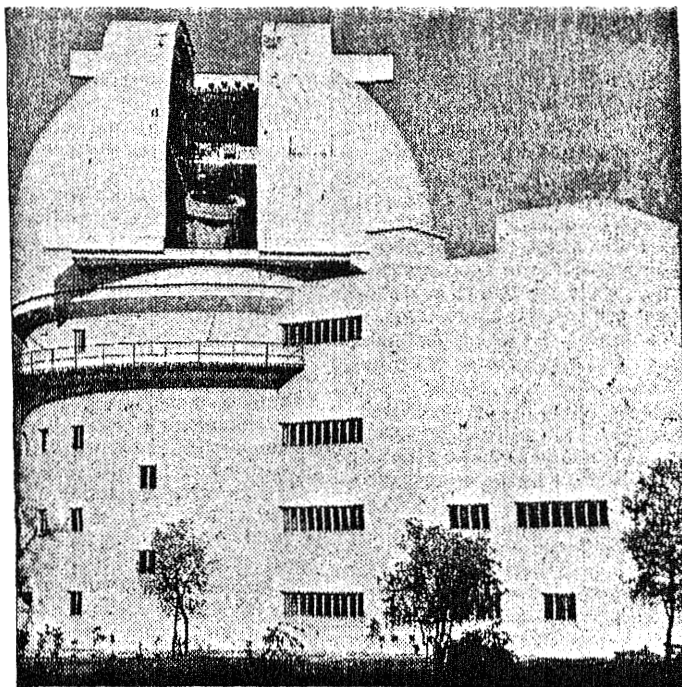
With the installation of the Vainu Bappu telescope, the Kavalur observatory is poised for a better and deeper understanding of the cosmic environment, Dr J.C. Bhattacharyya, director of the Indian Institute of Astrophysics, told a group of visiting newsmen at Kavalur. Shortly, a photometer is to be added to the giant telescope. After that the telescope will be able to find scan the deep sky and photograph celestial objects. One of the principal tasks of the new telescope will be to evidence of the spiral shape of milky way. Dr Bhattacharyya said it was also proposed to throw open the telescope as

set up a private observatory in Madras.

The observatory was later taken over by the East India Company in 1789 to provide navigational assistance to its ships. The oldest observation recorded in this observatory was on December 7, 1786. Noted in manuscript it records the longitude and latitude of Masulipatinam fort.

The observatory had a modest beginning. For the first forty years of its existence it did not have the object glass of as much as an inch and a half in aperture. The observatory acquired a 5-ft focus transit instrument in 1830 and 4 ft. diameter mural circle. In observation made from 1831 to 1843, these instruments were used. It was during this period that Thomas GJanville Taylor prepared his celebrated Madras Catalogue which listed the positions of over 11,000 stars and formed the basis of British association's 1845 Catalogue.

The observatory obtained its first telescope in 1850 thanks to William Stephan Jacob. It was a six inch equatorial telescope. This was re-



The 2.3 m telescope at Kavalur observatory

enable any astronomer having a worthwhile project to use the telescope

The new telescope also has a sentimental value for scientists of the institute as it had been acquired on 200th anniversary of scientific astronomical observation in this part of the country. In fact, the Indian Institute of Astrophysics traces its history to 1786 when William Petrie, an officer of the East India Company,

modelled in 1898 and erected at Kodaikanal observatory in 1900. With its lenses changed, it is still in service as a photoheliograph. With this telescope and another eight-inch one, the noted astronomer, Norman Robert Pogson, discovered from Madras five minor planets and six variable stars. After Pogson's death the eight-inch telescope fell into disuse. It was rehabilitated in 1960 by Dr Bappu himself when he took over as director of the institute,