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TRAVELLER

The Kodaikanal Solar Observatory was the first to confirm the Evershed affect—the radialmotion in sunspots—in 1909 (Marcus334/Wikimedia Commons)

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Did You Know About This 125-Year-Old Kodaikanal Observatory?

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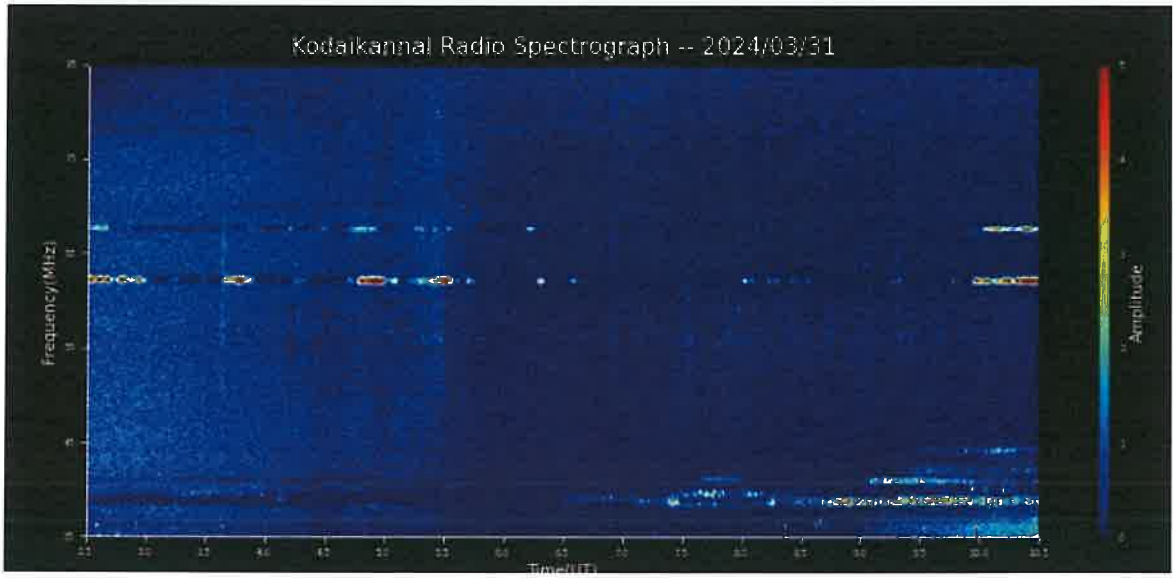
The iconic Kodaikanal Solar Observatory (KSO) in Tamil Nadu has been a mainstay of Indian astronomy since it was founded on April 1, 1899 by the British East India Company.

Celebrating its 125th birthday this year with a lecture by A. S. Kiran Kumar, chairperson of the governing council of the Indian Institute of Astrophysics (IIA), the KSO was the rst to con rm the Evershed a ect—the radial motion in sunspots—in 1909. Its role in observing and recording the Sun and its characteristics, including daily white light photography of the solar disc from the time it was set up, forms one of the most unique collections of solar activity

available anywhere in the world. Only two other institutions—the Meudon Observatory in Paris and the Mount Wilson Observatory—have a collection that spans an equivalent time period.

Due to its location in the Palani Hills of southern India, the KSO plays a central role in observing changes to the equatorial electrojet, an electric current which travels in the Earth's ionosphere. Beyond its scienti c achievements, the KSO is engaged in public outreach through workshops and educational initiatives.

Colonial-Era Origin



A radio spectrograph reading of the Sun on April 1, 2024

The British East India Company established an observatory at Madras in 1792 to promote astronomy, geography and navigation in India. The starting apparatus consisted of two three-inch achromatic telescopes, two astronomical clocks with compound pendulums, and a transit instrument. This equipment formed the nucleus of the new observatory, which embarked on a series of observations of the stars, moon and eclipses of Jupiter's satellites.

For over a century, the Madras Observatory was the only astronomical observatory in India engaged in systematic measures of star position and brightness. Its rst capture of a solar eclipse on August 18, 1868 created the

subject of solar physics. The spectroscope was used for the rst time to discover the gaseous nature of solar prominences.

A telescope observing the

As the British started developing observatories in the southern hemisphere, questions arose about discontinuing the Madras Observatory. In 1882, British astronomer N. R. Pogson proposed the need for a 20-inch telescope to be located at a hill station in South India for the photography and spectrography of the sun and stars. Leh, Mussoorie and Dehradun in the north, and Kodaikanal, Kotagiri and Madras in the south were listed as potential candidates.

The astronomers wanted skies which were free of dust to make their observations so Kodaikanal came to be chosen as the best location. The KSO was initially built in a shed from where it began observations in 1899.

Present Day

In 1968 a new eld observatory was started at Kavalur, Tamil Nadu for stellar spectroscopy and photometry. Most of the observations for research on galaxies, stars and the solar system are now obtained from Kavalur.

The KSO is now spread over numerous buildings and telescopes. It uses a combination of hand-drawn images, photographic plates and lms to record its solar observations. There are approximately 200,000 glass plates in the archives and four telescopes: the H-alpha telescope, twin telescopes and the White light Active Region Monitor (WARM) telescope. Its full range of equipment also includes a spectrograph, a photoheliograph, two full-disc spectroheliographs and a radio spectrograph.

The radio spectrograph

The archives are located in temperature- and humidity-controlled rooms. The glass plates are encased in paper envelopes. Visitors can go to an on-site astronomy museum that showcases a live solar image. Their website also publishes a daily solar photograph and visitors can access their nightly sky watch experience from 7 pm - 9 pm.

The Information

Timings: 9AM-4PM
Contact the Kodaikanal Solar Observatory on 04542240588 for more information or visit their website and Instagram page.

Getting There

Madurai is the closest airport to Kodaikanal 133 km away. Kodaikanal Road (KQN) is the nearest railway station and is regularly serviced by trains from Chennai. There are buses and taxis available from Chennai and Madurai to take you to Kodaikanal.