



Sisir Kumar Mitra

1890-1963

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HE is remembered for his contributions to the radio industry in the country. It was due to his untiring efforts that radio science gained importance as a subject and began to be taught in Indian universities.

Sisir Kumar Mitra specialized in radio physics, wireless and industrial research.

Born on 24 October 1890, Mitra's interest in science was triggered when he saw a demonstration of how one could ascend in a balloon. He was nine years old at the time, he wanted to know how this was possible. Not getting a satisfactory answer from his elder brother, he began looking for the answer in science books and magazines. This was the beginning of his interest in science.

But tragedy struck. His two elder brothers died and his father became paralysed. Had it not been for the insistence of his mother that he continue his education, Mitra would have had to leave school. After clearing school, it was at Presidency College that he had the privilege of watching closely J.C. Bose and P.C. Ray doing research. In fact, Bose's pioneering equipment for generating and detecting radio waves influenced him to take up research in radio science. In 1916, it was an offer for the post of lecturer at the newly formed postgraduate department of Physics of Calcutta University that marked the start of his scientific career.

In 1919, after being awarded the D.Sc. of Calcutta University for his thesis on the "The interference and diffraction of light", he went to work under Professor Fabry, at the Sorbonne. After a Doctorate in 1923, he worked for some time at the Institute of Physics in the University of Nancy where he studied the behaviour of

thermionic valves. He also came across scientists carrying out research on radio frequency oscillations in discharge tubes. It was then that he decided to change his line of research and study the propagation of radio waves.

In 1923, Mitra was offered the Khaira Chair of Physics in the University of Calcutta where he started to teach wireless at the postgraduate level. Soon afterwards, a wireless laboratory (now called Institute of Radio Physics and Electronics) was set up in 1925. For years to come, this laboratory would provide facilities for researches on electron tubes and radio waves propagation.

Next, Mitra constructed a radio transmitting station in the laboratory with the call sign 2CZ. Along with other amateurs in Bombay and Madras this station in Calcutta broadcast regular programmes for general reception. It was not until the Indian Broadcasting Company started transmissions in 1927 that 2CZ was closed down.

In scientific circles, Mitra is renowned for his contributions to the study of the ionosphere. Based on his researches Mitra found that the ultraviolet radiations emitted by the sun produced the E layer. This was a wonderful achievement as the presence of this layer had baffled scientists the world over. Mitra also found out why the night sky appears dusty black and not jet-black, as it should. He attributed this to the presence of ions in the F layer, which emit some light in the process called night sky luminescence.

In 1935, Mitra was appointed to the Ghosh Chair of Physics, which he held until his retirement. Mitra worked tirelessly until he succeeded in 1949 in establishing

a new Institute of Radio Physics and Electronics. Mitra became the first head of this institute.

But Mitra realised that observations were required in more places if a fruitful synoptic study of the ionosphere was to be made in India. He worked hard at realising this goal until a Radio Research Committee was finally set up in 1943 and Mitra became its first Chairman, a post he held till 1948.

In 1955, he retired from University service and relinquished the Ghosh Chair of Physics. In 1956 he was appointed Administrator of the Board of Secondary Education in West Bengal, a post he held until 1962 when he was appointed a National Research Professor by the government of India.

Mitra played an active part in the affairs of the Indian Science Congress Association. He was General Secretary of the Association from March 1939 to September 1944. Mitra was also closely associated with the Indian Association for the Cultivation of Science, and was also the founder member of the Indian Science News Association. The crater "Mitra" on the Moon is named after him.

In 1914, Mitra got married to Lilavati Biswas and had three sons, of whom the first died in infancy. His wife died in 1939 and his eldest son died suddenly in Aden in 1961. The loss of his son affected him deeply. Finally, an attack of cardiac asthma took the life of this great Indian scientist on 13 August 1963 in Calcutta. ■

