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The Giant Meterwavelength Radio Telescope Array and its observation



Prof. Subramaniam Ananthakrishnan (University of Pune)

Prof. Ananthakrishnan had been the Dean and later Senior Professor of NCRA-TIFR. He has been in radio astronomy research and instrumentation since 1966. He was in the core team which designed and built the Ooty radio telescope and commissioned it in 1970. He discovered that ion tails of comets have sufficient plasma density to scatter radio waves, when Comet Kohoutek passed close to Sun. During 1980-1985, he made fundamental contributions to solar wind studies, and extra galactic radio astronomy, which resulted in 3 Nature papers. Since early 1984, he was engaged as Project Scientist in the design and development of the World's largest radio antenna array called the Giant Meter-wave radio Telescope (GMRT). He was also the Head of the Electronics division which designed the entire antenna control and receiver electronics for the 30 numbers of 45 m diameter. For these contributions the Indian National Science Academy awarded him the INSA International Vainu Bappu Memorial Award in 2010. He was the Chairman of Commission J of Radio Astronomy of URSI during 2008-2011 and became the Vice-President of URSI for the term 2011-2014. During the period 2000-2011, he has been involved in several research projects, published more than 90 papers in national and international journals. Prof. Ananthakrishnan has been involved in research on solar physics and radio astronomy for more than 40 years and continuing to be in these areas. Currently, he is interested in solar magnetic fields as well as interplanetary turbulence, which in turn may throw light on the magnetic field.

Abstract

The construction of GMRT, which is currently, the largest low frequency array of radio telescope operating in the frequency range 150 – 1500 MHz in the world, was an exciting adventure in India which required handling a variety of subjects. I was fortunate to be involved in it deeply along with Prof. Govind Swarup, who led the effort and other team members. In this presentation, I will discuss not only the details of the construction and commissioning of GMRT, but also a variety of science outputs that have come from this mammoth instrument.



All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).