



Institute Lecture

“Radio Waves and the Universe and Challenges Ahead”

Prof. Govind Swarup
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Pune University Campus,
Ganeshkhind, Pune

Date :Wednesday, October 19, 2005 Venue: L-1, Lecture Hall Complex Time: 6:00 PM

Abstract

Over the last few decades several outstanding discoveries have been made through the radio window, such as Cosmic Microwave Background Radiation, Pulsars, Active Galaxies associated with Massive Black Holes etc. These have truly revolutionized our understanding of the Universe. Today, astronomy, cosmology, and fundamental physics are at cross roads posing many puzzling questions, such as origin of the universe, what is invisible dark matter, is universe accelerating, does Einstein's General Relativity hold true at all scales, etc.

After a brief introduction to the above questions the speaker plans to describe the Giant Metre Wave Radio Telescope built by them fully indigenously at NCRA-TIFR consisting of 30 dishes of 45m diameter each, of a novel and economical design near Pune. It has become world's largest radio telescope operating at dcm and m waves and has already yielded many interesting results and discoveries . Finally, the speaker will describe great challenges in instrumentation, image processing and computer science applications for GMRT, and also for a billion dollar radio telescope planned as an international effort by 17 countries, in which India is a partner.

About the speaker:

Prof.G.Swarup did M.Sc in physics from the Allahabad University and P.hd from Stanford University in 1961.He spent four years at National Physical Lab at Delhi, two years at CSIRO, Australia, an year at Harvard and six years at the Stanford including two years as a Faculty member in the Deptt. Of Electrical Engineering. He joined Tata Institute of Fundamental Research in 1963 and became Professor of Eminence in 1990. He was Professor Emeritus during 1994-99.He has made pioneering contributions in the field of solar radio astronomy , radio galaxies, quasars, cosmology and radio astronomy instrumentation. He is a Fellow of the Royal Society of London and all the National Science Academies in India. He has received over 20 national and international awards including Padmashri (1972), S.S. Bhatnagar Award (1973), P.C. Mahalanobis Medal, Tskolovsky Medal of USSR, Meghnad Saha Medal, Third World Academy of Sciences Award in Physics, C.V.Raman Medal, John Howard Delinger Gold Medal of URSI, Dr. B.C. Roy National Award by the Medical Council of India.

All are cordially invited to attend.

S.C.Srivastava

Dean of Research & Development