

P.V. Ramanamurthy

Poolla Venkata Ramanamurthy, who passed away on January 25, 2021 at the age of 91, in Berkeley, California, was a pioneering cosmic ray physicist and one of the pillars of the team built up at TIFR by Homi Bhabha in the 1950s. Born on August 15, 1929 in the village of Pallipalem, East Godavari District, Andhra Pradesh, Ramanamurthy was the youngest of ten siblings, and the only one to go to college. He studied at the Government Arts College in Rajahmundry and received a B.Sc. in Physics in 1950, followed by an M.Sc. in Geophysics from the Andhra University, Vizagapatam (now Visakhapatnam) in 1952. He then joined the Tata Institute of Fundamental Research (TIFR) and received his Ph.D. in 1963 under the supervision of M.G.K. Menon. His dissertation on underground cosmic rays and neutrinos was widely recognized. The depth versus intensity curve of high energy muons developed therein became the benchmark for numerous studies by other groups worldwide.



Ramanamurthy spent his entire career in TIFR, eventually rising to the rank of Senior Professor. He worked on several high-profile experiments at the University of Michigan (1966-69) on proton decay and Fermilab (1972-75) on neutron-proton cross sections at 30-300 GeV. He collaborated with many world-class scientists including Professors A. Wolfendale (Durham), L. Jones and J. van der Welde (Michigan), F. Reines (Irvine), S. Miyake (Tokyo), and Y. Muraki (Nagoya). He advised several doctoral students at TIFR including P.N. Bhat and S.K. Gupta, who have gone on to illustrious careers of their own. He wrote a very influential book on Gamma Ray Astronomy (with A. Wolfendale). He retired from TIFR in 1993, but continued to be active in research after retirement, working at Nagoya University (1993-95) and the NASA Goddard Flight Center (1995-97) on the EGRET project for gamma ray pulsars. He finally retired from professional endeavours in 1998 and settled in California to be close to his immediate family.

Ramanamurthy is undoubtedly one among the few cosmic ray physicists in India who have earned international recognition for his work carried out over four decades. He was particularly known for his pioneering experiments, deep underground in the Kolar Gold Mines, on various aspects of the 'penetrating radiation', which laid the foundation for a variety of subsequent experiments on muons, neutrino interactions and proton decay. He made very significant contributions to the study of the characteristics of high-energy interactions using cosmic rays and was involved in the indigenous development of a variety of novel instrumentation for these experiments. He also pursued some of these studies at accelerators. Later in his career, he led a team of scientists searching for the emission of high-energy gamma rays from pulsars using the atmospheric Cherenkov technique. For this purpose, he built a ultra high-energy gamma ray telescope — the largest in the world — at Ooty (now Udhagamandalam). Among many other important results, he found evidence for bursts of gamma rays emitted from the well-known pulsar in the Crab Nebula.

Ramanamurthy was elected a Fellow of the Indian National Science Academy in Delhi, and a Fellow of the Indian Academy of Sciences, Bangalore and was a member of the Astronomical Society of India. He is survived by his wife Subhadra, son Kameshwar, and grand-daughter Kira. He will be sorely missed for his generosity, wisdom, and fierce dedication to Indian Science. May he rest in peace.