ANNOUNCEMENT

PROFESSOR S. CHANDRASEKHAR, F.R.S.

The Indian scientific community is indeed extremely happy to receive the announcement that Prof. S. Chandrasekhar of the Raman Research Institute. Bangalore has been elected to the fellowship of the Royal Society, London. This honour has been bestowed on him in recognition of his outstanding contributions to the physics of liquid crystals over the past two decades.

Dr Chandrasekhar started his research career in 1950 when he joined as the first research student of the newly founded Raman Research Institute in Bangalore. His work at the Institute dealt with the optical activity of crystals, particularly those crystals that are not optically active in solution. He proposed a new type of quadratic formula for the rotatory dispersion of such crystals, which proved to be remarkably successful in reproducing the observed result for quartz, cinnabar, etc. After obtaining his D.Sc., in 1954, he spent a few years in Cambridge and London, where he changed his field of interest to x-ray diffraction from crystals. His main contribution was the development of a general method of overcoming the problem of extinction effects in real crystals by the use of polarized x-rays.

In 1961 Dr. Chandrasekhar was appointed Professor of Physics in the University of Mysore, and given the responsibility of organizing a new post-graduate department of physics. It was here that he decided to embark on the new and at that time relatively unknown field of liquid crystals. During the past decade there has been an enormous growth in the R&D work on liquid crystals, partly spurred by the possibility of practical applications. Further, liquid crystals are now known to exhibit a rich variety of phases and transitions between such phases, and the subject has become one of the most exciting branches of modern condensed matter physics

But two decades ago when Prof. Chandrasekhar started his work on liquid crystals, the subject was very much in its infancy. His contributions from Mysore were on the development of statistical theories of nematic liquid crystals and on the understanding of the optical properties of cholesteric liquid crystals. He moved over to the Raman Research Institute, Bangalore towards the end of 1971, and has organized the laboratory to take up fundamental experimental studies on most of the physical properties of liquid crystals. He has contributed to diverse aspects of the physics of liquid crystals: statistical theories, x-ray, optical, high pressure studies and so on. His most important discovery is that of a new class of liquid crystals exhibited by simple disc-like molecules. Such liquid crystals have a unique columnar arrangement of the molecules with translational order in two dimensions and liquid-like structure in the third. The physics of this new class of liquid crystals is different from that of the other liquid crystals of rod-like molecules in many respects and the subject has become a hot field of study in many laboratories of the world

He has a lucid style of writing and has contributed a large number of invited review articles on practically all aspects of the physics of liquid crystals. His book on the subject, published as one of the Cambridge Monographs on Physics in 1977, has now become a standard reference work for researchers in this field. It attracted highly favourably reviews from many leading liquid crystallers and the popularity of the book is evident from the fact that a paperback edition as well as a Russian translation were published in 1980.

Professor Chandrasekhar has been a member of the editorial board of the journal Molecular Crystals and Liquid Crystals for several years. He is also a member of the Planning and Steering Committee of the International Conferences on Liquid Crystals. Further, he has himself organized in Bangalore three highly successful international conferences on the subject, the most recent one being the Ninth International Conference held in December 1982, in which about 300 delegates from 34 countries participated.

He is a Fellow of both the Indian Academy of Sciences (1962) and of the Indian National Science Academy (1978).

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