

FOREWORD

The second Indo-Soviet Conference on Low Temperature Physics was held at the Institute for Physical Problems of the Academy of Sciences of USSR, Moscow, from 15–25 May 1986. It coincided with the 50 years of that famous Institute started by Academician (late) P. L. Kapitza in 1936. Academician A. S. Borovik-Romanov, the present Director of the Institute, was the organizer of the conference from the Soviet side.

Ten scientists attended the conference from India and the Soviet participation was restricted to about 25. The scientific programme consisted of about a dozen reports from the Indian side and about 18 from USSR. The extensive discussions at the end or during each paper and the consequent extension of the session time were indicators of the interest and utility of the conference. The success of the first and the second Indo-Soviet conferences on low temperature physics made the participants feel the need to have another binational conference with a gap of about two years. It was felt that one could move on to a specialized theme in low temperature phenomena, instead of covering the whole canvas of low temperature studies.

In the present conference, there was inevitably a spectrum of presentations, some giving original new results and some reviewing a particular topic, while some are directed towards theoretical questions and some towards practical applications. The interplay among all these features was also clearly evident. To list the topics in superconductivity, magnetism, quantum fluids, disordered systems, metals and so on would be pointless. Low temperature physics, either as a study in its own right or as a tool to understand other phenomena, has interconnections with almost all branches of condensed matter and quantum phenomena.

The papers published in this special issue are the revised versions of the presentations in the conference. Unfortunately many soviet colleagues could not complete their task by the deadlines set; so a few abstracts and a few full papers alone were available for printing. Nevertheless the publication in a journal is not only a felicitation to the Institute of Physical Problems and the Indo-Soviet cooperation but also a record of the progress which will benefit a wider audience.

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