

# Liquid and Solid Helium

Haifa, Israel, 1-4 July 1974

From 1-4 July 1974 a Europhysics Topical Conference on "Liquid and Solid Helium" was held at the Technion, Haifa, Israel. This meeting was intended to bracket the three-year interval between the large IUPAP Low Temperature Physics Conferences (LT 13 - Boulder 1972., LT 14 - Helsinki 1975). A somewhat earlier date might, in this respect, have been preferable, but turned out not to be feasible. The site of the conference was primarily chosen on the basis of the activities of some Israeli institutes in the conference topics. The latter had been selected shortly after LT 13 in the expectation that interesting developments would be forthcoming, particularly on the helium-three isotope. The conference was attended by about 80 participants, mostly from western Europe and the USA. There were about 15 invited speakers on the subjects of liquid  $^3\text{He}$ ,  $^4\text{He}$ , and solid  $^3\text{He}$ . Of course the newly discovered phases of liquid  $^3\text{He}$  below 2.7 milli kelvin attracted most attention; various groups are very actively pursuing research in this not so easily

accessible temperature region. Lee, Lounasmaa, Legget and others gave a vivid account of the rapidly developing (and sometimes controversial) results and their interpretation in terms of the analogues of the BCS - theory of superconductivity. Whereas the superfluidity of the new phases (A and B phases, see *Europhysics News*, Vol. 5, No. 10) has been established by various methods, there remains a good deal of uncertainty about the character of the superfluidity. Very interesting relations with other areas of condensed matter physics are being revealed. For instance, the anisotropic properties of the superfluid phases may be related to those of liquid crystals. A great deal of activity concentrates on the study of the magnetic behaviour of these phases, which is closely related to the anisotropic properties.

Quite recent data were presented on the occurrence of a magnetic phase transition in solid  $^3\text{He}$ ; Adams and Nosanow presented a clear discussion on the present situation, which has many puzzling features. Obviously,

the nature of this "quantum solid" requires further study. Also very interesting results were presented on the sound and phonon propagation in liquid  $^4\text{He}$  (by Ketterson and Dynes) and across the interphase of liquid helium and solids, i.e. the Kapitza resistance (Andersen). Interesting developments, like those described above, stimulate physicists to organize meetings; the Haifa conference was preceded by a meeting on very similar topics in Aussois (France) and phonon propagation was the main topic of the EPS Physics of Condensed Matter Conference in Budapest in October 1974. Furthermore, there was a conference held on quantum crystals on 11-15 November 1974 in Tbilisi. Provided that meetings' are spread sufficiently in space and time, this is a healthy state of affairs. The EPS Conference Committee often serves a useful purpose by coordinating European conferences but its effectiveness depends on a sustained effort of European physicists to cooperate. In this respect the Israeli hosts (among which, in particular Professor Kuper, Dr. Landau and Dr. Eckstein of the Technion may be mentioned) were definitively Europeans. A label which has I hope a positive connotation.

W. J. Huiskamp, Leiden

## Research Position in Experimental Particle Physics

The Istituto Nazionale di Fisica Nucleare (I.N.F.N.) in Torino (Italy) proposes to appoint a Research Associate for a period of two years starting early spring 1975 to engage in research in strong interactions of elementary particles with the bubble chamber group of the University of Torino.

The gross yearly salary will be between Lit. 4900000 (typical age 24) and Lit. 6300000 (typical age 32 or more).

Applications (one typed copy) including a curriculum and the names of two references, should be addressed within one month after the publication of this notice to:

*Prof. A. Marzari, Istituto di Fisica dell'Università, Corso Massimo d'Azeglio, 46, 10125 Torino, Italy.*

The appointment may be eventually extended or converted into a permanent position after the two years, at the judgement of a special commission.

## Meetings

For a full list of events see the latest Meetings Issue of *Europhysics News* 5, 11 (November 1974). Notification of the meetings announced in this issue has been received recently.

The order of information is: date, title, venue, and contact for information.

## Conferences 1975

### 1 - 4 July

12th European Congress on Molecular Spectroscopy  
Strasbourg, France  
12e Congrès Européen de Spectroscopie Moléculaire, Institut de Physique, 3, rue de l'Université, F - 67000 Strasbourg

### 10 - 16 August

The Nuclear Structure Symposium of the Thousand Lakes 1975  
Joutsa, Finland  
Henry Kalm, Department of Physics, University of Jyväskylä, Nisulankatu 78, SF - 40720 Jyväskylä 72

### 25 - 30 August

6th International Conference on Mössbauer Spectroscopy  
Cracow, Poland  
A. Hryniewicz, Organizing Committee, P.O. Box 204, PL - 31-021 Cracow

### 10-12 September

International Meeting on Hyperfine Interactions  
Heverlee, Belgium  
L. Vanneste, Instituut voor Kern- en Stralingsfysica, Celestijnenlaan 200 D, B - 3030 Heverlee

## 'Summer' Schools 1975

### 21 July - 2 August

Linear and Nonlinear Electronic Transport in Solids  
Antwerp, Belgium  
J.T. Devreese, 'Leerstoel' Toegepaste Wiskunde voor de Wetenschappen, R.U.C.A., Groenenborgerlaan 171, B - 2020 Antwerp

### 8 - 20 September

Surface States and the Chemical Bond  
Casamari (Frosinone), Italy  
Marcel Bourg, Laboratoire de Chimie Théorique, Université de Provence, Place V. Hugo, F - 13331 Marseille, Cedex 3

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