Low Temperature physics Conference

FREUDENSTADT, FED. REP. GERMANY, 6-8 APRIL 1972

W. Klose

The Low Temperature Physics Division of EPS held their first Conference in Freudenstadt (Black Forest, Fed. Rep. Germany) on 6-8 April 1972. Altogether 230 participants were registered from Austria, Denmark, Fed. Rep. Germany, Finland, France, Hungary, Israel, Italy, Lebanon, The Netherlands, Norway, Poland, Portugal, Sweden, Switzerland, UK, USA, USSR, Yugoslavia.

Each day was devoted to one topic: Physics below O.I K; Helium problems; Phase transitions and coexistence of phases.

Originally there were no parallel sessions planned and each morning and afternoon started with invited papers :

Physics below O.IK

O.V. Lounasmaa (Finland)
New methods for approaching absolute zero.

K.W. Taconis (The Netherlands)
The physics of ^{3}He - ^{4}He refrigeration.

M. Kalvius (Fed. Rep. Germany)
Mössbauer spectroscopy at very low temperatures.

K. Andres (USA)
Hyperfine enhanced nuclear cooling and nuclear ordering in the millidegree Kelvin range.

E. Bucher (USA)
The physics of Van Vleck paramagnetic materials in view of their nuclear cooling properties.

Helium problems

D.V. Osborne (UK)
Evaporation and condensation of liquid He-II.

R. de Bruyn Ouboter (The Netherlands)
The hydrodynamics of the He film.

J. Wheatley (USA)
Anomalously low thermal resistance between pure He^3 and Curie-law paramagnetic substrates at very low temperatures.

Phase transitions and the coexistence of phases

J.E. Mercereau (USA)
Superconductivity at finite voltage.

J. Zittartz (Fed. Rep. Germany)
Magnetic impurities in superconductors.

P.C. Hohenberg (USA)
Magnetism in one and two dimensions.

Owing to the qualification of post-deadline papers, the original policy was changed and two short parallel sessions were allowed. Thus, about 50 contributed papers were presented at the Conference. A prize of DM 200.— was awarded to P. Leiderer (Physics Department, TH Munich) for the best standard in presenting his paper.

Scientific progress could be seen in all fields. K.W. Taconis reported on a new dilution refrigerator that achieved 50 mK in a first run. K. Andres and E. Bucher opened up new perspectives to approaching absolute zero by Van Vleck type materials using hyperfine enhanced nuclear cooling, whereas O.V. Lounasmaa had pointed out the possibilities resting in Pomeranchuk cooling. D.V. Osborne called attention to surface problems in He-II. R. de Bruyn Ouboter showed ingenious experiments on film properties of He-II. J. Zittartz announced the effect of Kondo-influenced superconductivity such that, below a certain lower transition temperature, superconductivity would vanish; that was confirmed experimentally by G. von Minnigerode, G. Riblet and K. Winzer.

J. Wheatley, J.E. Mercereau and P.C. Hohenberg initiated interesting discussions and their contributions proposed a very solid ground for further research in the different fields. A most instructive film on He-II properties had been prepared and was presented by J.F. Allen.

Session-chairmen from 7 countries helped to run the Conference smoothly. The Conference Chairman takes this opportunity to thank all those who gave financial help to the Conference, namely: the Bundesministerium für Bildung und Wissenschaft, Bonn; Siemens AG, München-Erlangen; Linde AG, München; Philips Deutschland; BBC, Mannheim; AEG-Telefunken, Frankfurt; Krupp, Essen; Messer-Griesheim, Frankfurt; RCA, Zürich; and Balzers, Balzers.

D. Thoulouse (left) and N. Kurti at the Freudenstadt Conference.

The Impact of Computers on Physics

CERN, Geneva, Switzerland, 10-14 April 1972

Organized by the Computational Physics Group of EPS

It was appropriate that this first European Conference on Computational Physics should have taken place at CERN with its 466 million Swiss Franc budget devoted to investigating the basic structure of matter by 'impact'. The Data Handling Division at CERN was engaged, during the Conference, in testing their newly installed CDC 7600 — the most powerful computer for physics research in Europe.

The major conclusions of the successful Conference seemed to be that it was the initial formulation of phys-

ics problems that was important, not the detailed programming, and that the more powerful the computer the more useful it would be, whatever the field of application.

Organization

The Conference was organized by a Committee representing the Divisions of EPS and CERN ; it was chaired by G.R. Macleod. Detailed arrangements were handled by Miss D.A. Caton of the CERN Conference Secretariat. An important and significant aspect of registration was that only Individual Ordinary Members of EPS had a reduced attendance fee.

This benefit led directly to an estimated 50 new Individual Ordinary Members for the Society. Of the 285 fee-paying delegates, no fewer than 110 were EPS Members, and there were 14 non-Europan delegates.

Technical programme

The major part of the programme was devoted to invited papers which reviewed the effect which the advent of the electronic computer had had on research in physics over the past one or two decades. It helped to identify those areas of physics where computational power will become critical in the future. The conference set out to appeal to industrial physicists by offering applied physics contributions, but the response here was less than rewarding. Topics of the plenary sessions were :

The impact of computers on atomic physics
P.G. Burke (Belfast)
Numerical calculations in fluid dynamics
K.V. Roberts (Culham)
Geophysics
C.L. Pekeris (Rehovoth)
Computer systems
B. Zacharov (Daresbury)
Pattern recognition
P. Zanella (CERN)
Algebraic manipulation techniques
M. Veltman (Utrecht)
Contribution of computer simulation to plasma theory
J.M. Dawson (Princeton)
Numerical experiments in statistical mechanics
B.J. Alder (Lawrence Livermore)
Nuclear potential energy surfaces and the half-lives of superheavy elements
S.G. Nilsson (Lund)
Meteorology
J.G. Charney (MIT)
Computation of electronic properties of solids
H.G. Junginger (Aachen)
Analysis of biological structure at the atomic and molecular level
R.A. Crowther (Cambridge)
The heuristic value of computers in physics
J.R. Pasta (Washington)
Computer programs in astrophysics
H.C. Thomas
The use of computers in industrial R and D
H.B.G. Casimir (Eindhoven)

Apart from these plenary papers, there were no fewer than 10 parallel sessions in which delegates presented submitted papers which the Organizing Committee had accepted.

Society News

EPS General Conference

Wiesbaden, 3-6 October 1972

With the programme of the Second EPS General Conference near completion (**3** (2) March 1972), the Organizinz Committee have more news for prospective delegates and for potential exhibitors at the Physics Exhibition.

Nearly five months before the event, there is a lot of pressure for the available exhibition area which is being rapidly snapped up. Although there is a possibility that additional space may be provided, interested companies and organizations should make haste with their applications.

Registration of delegates is also progressing well. Apparently, there is expected to be much demand for hotel accommodation in Wiesbaden during the week of the Conference, so that those who would like the opportunity to have a good selection should write to the Conference Management as soon as they have decided to participate in the Conference.

Youth Hostel Accommodation

The German Physical Society has reserved 200 beds a at a Wiesbaden youth hostel so that delegates who wish to take advantage of cheaper accommodation should have no difficulty. The cost of bed and breakfast will be 6.50 DM per night. Delegates interested in this offer should obtain an International Youth Hostels Federation card from their country of residence. Early application to the Conference Management is advisable, and a list of IYHF agencies is obtainable on request.

Social and Ladies' Programme

Visits to Esso, Nuclear Centre (Karlsruhe), Federal Criminal Investigation Department (Wiesbaden), Höchst (Frankfurt), Battelle (Frankfurt) and Fernsehen (Munich) provide some variety in the Social Programme. An interesting trip has been arranged on a special tracktesting train of the Federal German Railways. In the Ladies' Programme, a tour following Goethe's footsteps and a visit to the Rhine for coffee will be attractive features.

Reduced rates for EPS Members

Individual Ordinary Members of EPS are entitled to a 40 % reduction on the registration fee, so they will only have to pay 6 DM★. In addition, they will be able to obtain the Volume of Plenary Lectures through EPS with a 10 % reduction.

Associate Members of EPS will be eligible for 25 % reductions on rates for both exhibition stands and for advertisement space booked in the Exhibition Handbook.

Conference Management

On all matters relating to the Second EPS general Conference an Physics Exhibition, please contact

U. Dihle,
Physikalische Institut
der Universität,
Robert Mayer Strasse 2-4,
D-6000 Frankfurt / Main,
Federal Republic of Germany.

EUROPHYSICS JOURNALS

At the last meeting of the Advisory Committee on Publications on 18 April, it was agreed that, when a Europhysics journal was split into series, then each series should carry the ' Europhysics ' label. This decision was reached after consideration of the application by the new *Journal of Physics F* for permission to carry the Europhysics label.

INDIVIDUAL ORDINARY MEMBERS

The following have been accepted as Individual Ordinary Members of the European Physical Society :

I. Natkaniec, Grenoble

F. Occhionero, Frascati

F. Pacini, Frascati.

★ Correction : not 6 DM but 60 DM.