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## Meetings

### *The Temperature Scale 10°K to 90°K*

**L**AST August 31 and September 1 a conference was held at the Kamerlingh Onnes Laboratory, Leiden, Netherlands, for the discussion of problems connected with the standardization of the calibration of platinum resistance thermometers from 10°K to 90°K. The Conference was attended by H. van Dijk (who called the Conference and presided), te Harmsel and van Rijn of the Kamerlingh Onnes Laboratory; C. R. Barber of the National Physical Laboratory, Teddington, England; H. F. Stimson and H. H. Plumb of the U. S. National Bureau of Standards and F. G. Brickwedde, of The Pennsylvania State University.

The platinum-resistance thermometer International Temperature Scale extends down to 90.18°K (−182.97°C) but not lower, and hence a first concern in the standardization of the calibration of thermometers below 90°K is the standardization of the temperature scale itself. The standardization of the scale will be worked out through an exchange and comparison of platinum resistance thermometers calibrated on helium gas thermometer scales in the different laboratories that have established these helium gas scales. The routine calibration of thermometers on an international standard scale would involve measurements of thermometer resistances at a few fixed points, as the boiling points of oxygen (90.18°K) and hydrogen (20.26°K for the 20°K equilibrium mixture of  $\alpha$ - and  $\beta$ -H<sub>2</sub>) and the triple point of oxygen (54.363°K), and an interpolation formula for determining resistances between the fixed points. The simplest and most successful interpolation formulas have been ones for differences between the resistance of the calibrated thermometer and a standard thermometer or a standard table of platinum resistances versus temperature.

The Conference was called to foster international cooperation. Not all of the national standardizing laboratories that calibrate thermometers between 10° and 90°K were represented at the Conference. Some agreements were reached for coordinating the work of the laboratories represented.

It was agreed to represent, if possible, the scale between 20°K and 90°K by a single interpolation formula. It appears that enough work has already been done to make it possible to define a scale that will agree with the thermodynamic scale within  $\pm 0.01$  degree. It seemed desirable that the secondary platinum scale should have a precision of definition of 0.003 degree, but it was thought 0.005 degree would be acceptable. It was agreed that the range of acceptable platinum



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Age..... ☐ Single ☐ Married ☐ Male ☐ Female

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| Yr. | Make | Model (Dlx., etc.) | Cyl. | Body Style | Purchase Date | <input type="checkbox"/> New  |
|-----|------|--------------------|------|------------|---------------|-------------------------------|
|     |      |                    |      |            | Mo. Yr.       | <input type="checkbox"/> Used |

1. (a) Days per week car driven to work?..... One way distance is..... miles.

(b) Is car used in any occupation or business? (Excluding to and from work)

☐ Yes ☐ No

2. Additional male drivers under age 25 in household at present time:

| Age | Relation | Married or Single | % of Use |
|-----|----------|-------------------|----------|
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for the scale should not be restricted to the highest purity now available, but should include platinum of the best quality that is presently available in most of the principal countries of origin of platinum resistance thermometers.

It was agreed to make the platinum scale between 20°K and 90°K continuous with the International Temperature Scale above 90°K; accordingly 90.18°K (−182.97°C), the temperature of the normal boiling point of oxygen on the International Temperature Scale, was adopted for the oxygen-calibration point. The 20°K equilibrium mixture of *o*- and *p*-H<sub>2</sub> was chosen for defining the hydrogen fixed point, and 20.26°K was assigned to the temperature of the normal boiling point of this 20°K equilibrium mixture. The temperature to be used for the normal boiling point of normal H<sub>2</sub> (75 percent ortho) is 0.117 degree higher.

F. G. Brickwedde  
Pennsylvania State University

## *Spectroscopy*

**B**OTH theoretical and experimental aspects of several frontier areas in spectroscopy will be covered at the 7th Annual Western Spectroscopy Conference, which will take place on January 28 and 29 at Asilomar, in Pacific Grove, Calif.

The program will consist of eight invited lectures to be presented during two morning and two afternoon sessions, with time provided for informal discussion of the papers. The subject areas to be covered are the far infrared, intermolecular interactions, hydrogen bonding, shock tubes, and plasmas.

Additional information on the conference may be obtained from the chairman, Dr. J. N. Shoolery, Varian Associates, 611 Hansen Way, Palo Alto, Calif., or the recorder and registrar, Jackson M. Gordon, Shell Development Company, Emeryville, Calif.

## *Scintillation Counters*

**F**OUR half-day sessions dealing with (1) scintillators, (2) photomultipliers and associated electronics, (3) scintillation track imaging, and (4) astrophysical and space applications of scintillation counters will make up the formal program of the Seventh Scintillation Counter Symposium to be held February 25–26 at the Hotel Shoreham in Washington, D. C. The meeting will be sponsored by the American Institute of Electrical Engineers, the Atomic Energy Commission, the Institute of Radio Engineers, and the National Bureau of Standards. It is one of a series of symposia, held biennially since 1948, serving to bring together those interested in the field for the purpose of exchanging theoretical and practical information on advanced techniques, recent equipment developments, and new components.

In addition to invited papers by US and foreign scientists and contributed papers by workers in the field, there will be a dinner and a special evening