# A — MATHEMATICS, PHYSICS and ASTRONOMY (including OPTOMETRY)

#### PRESIDENT:

R. G. GIOVANELLI, D.Sc., F.A.A., Division of Physics, C.S.I.R.O., Sydney.

#### VICE-PRESIDENT:

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#### CHAIRMAN:

G. R. A. ELLIS, B.Sc., Ph.D., F.Inst.P., F.A.A., Department of Physics, University of Tasmania, Hobart.

### JOINT SECRETARIES:

Mathematics: Professor D. ELLIOTT, M.Sc., M.S.E., Ph.D., Department of Mathematics, University of Tasmania, Box 252C, G.P.O., Hobart.

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#### SECTION OFFICE:

Room 201, Physics Building, second floor.

#### **MEETING PLACES:**

Except for the symposium "Measurement of Gravity", which is in the Geology-Geography Building, all sessions of Section A are in the Physics Building, in the rooms indicated below. Lecture Theatre No. 1 is on the first floor; Theatres 2 and 3 and Laboratory 6 on the second floor.

# **PROGRAMME**

#### MONDAY, 16th AUGUST

9.30 a.m. SYMPOSIUM: Galactic Radio Astronomy. Phys. Th. 2. Chairman — B. J. Bok (Australian National University). Neutral hydrogen in the galaxy — F. J. Kerr (Division of Radiophysics, C.S.I.R.O., Sydney).
 Distribution of ionised hydrogen in the galaxy — G. R. A. Ellis (University of Tasmania).
 OH radicals at the galactic centre — B. J. Robinson (Division of Radiophysics, C.S.I.R.O., Sydney).

## 11.15 a.m. Concurrent Sessions:

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SYMPOSIUM: Galactic Radio Astronomy (continued).
 Radio continuum emission from the local spiral arm—D. S. Mathewson (Division of Radiophysics, C.S.I.R.O., Sydney).

Some observations of the southern sky at 75 c.m. using a one and a half minute fan beam — A. G. Little (University of Sydney).

Hectometer radio astronomy — G. Reber (Division of Radiophysics, C.S.I.R.O., Hobart).

# 2.00 p.m. Concurrent Sessions:

1. SYMPOSIUM: Techniques in Radio Astronomy. Phys. Th. 2.

Chairman — F. J. Kerr (Division of Radiophysics, C.S.I.R.O., Sydney).

Problems of absolute sky temperature measurements—
R. Wielebinski (University of Sydney).

Annular apertures in radio astronomy — S. F. Smerd (Division of Radiophysics, C.S.I.R.O., Sydney).

Economical dilute aperture arrays for radio astronomy—
N. J. Rumsey (Physics and Engineering Laboratory, D.S.I.R., Lower Hutt).

SYMPOSIUM: The Cornea and Contact Lenses (continued).
 Corneal topography and a new method of corneal measurement—
 B. A. J. Clark (Defence Standards Laboratories, Melbourne).
 Colour and ultra-violet films of contact lens wearing—

J. P. F. Strachan (University of Melbourne).
3. SYMPOSIUM (with Section H): Telecommunications. Phys. Th. 3.
Chairman and Convener — P. R. Brett (P.M.G. Research Laboratories, Melbourne).
Lasers and optical communication systems—
A. E. Karbowiak (University of New South Wales).

## 3.45 p.m. Concurrent Sessions:

SYMPOSIUM: Radio Emission Theory. Phys. Th. 2.
 Chairman — F. J. Kerr (Division of Radiophysics,
 C.S.I.R.O., Sydney).
 Radio emission from the sun — S. F. Smerd (Division of Radiophysics, C.S.I.R.O., Sydney).
 Interaction of a helical electron stream with a magneto-active plasma — P. C. W. Fung (University of Tasmania).
 Astronomical implications of a cosmological theory of light propagation — S. J. Prokhovnik (University of New South Wales).

SYMPOSIUM: The Cornea and Contact Lenses (continued). Developments in fitting principles in the design of corneal microlenses and the results of their application in practice—P. F. Thomas (University of New South Wales). Colour and ultra-violet films of contact lens fitting—J. P. F. Strachan (University of Melbourne).

SYMPOSIUM: Telecommunications (continued).
 Phase and amplitude characteristics of high frequency radio waves in relation to communications—
 P. W. Baker (R.A.A.F. Academy, University of Melbourne).

 Some properties of ionospherically reflected high frequency radio waves—C. G. McCue and Z. R. Jeffrey (Weapons Research Establishment, Salisbury).