

CONTENTS

INTRODUCTION	page 1
Purpose and character of the conference	1
Formation of new sub-committees in the I.A.U.	2
Introductory papers	3
A (1). OVERALL STRUCTURE: NUCLEAR REGION AND HALO	4
Work on variable stars in the halo	4
Large-scale structure of the halo	4
The photometric scale	7
Soviet survey of variable stars in Kapteyn's Areas	7
General survey of the brightest variables	8
Low luminosity blue stars in the halo	8
Nuclear region	9
Radio surveys	9
Variable stars	9
Planetary nebulae	11
Infra-red survey of M giants	11
Novae survey	12
A (2). OVERALL STRUCTURE: SPACE DISTRIBUTION AND MOTIONS IN THE DISK	13
Information derived from the Andromeda nebula	13
Distribution and motion of interstellar gas	15
Super-giants	16
Cepheids	18
Fields to search for faint Cepheids	19
Colours of the Cepheids	20
Long-period variables	20
Survey of other variables in the disk	21
Open clusters	21
Infra-red surveys of M, N and S stars	23
B (1). LOCAL STRUCTURE: DISTRIBUTION OF DIFFERENT TYPES OF STARS IN THE PLANE	25
Selection of types of stars for study	26
Further work on the individual stars found in the survey	28

B (1). LOCAL STRUCTURE: (<i>cont.</i>)	
Choice of the fields	<i>page</i> 29
Survey of Ao-type stars	30
Survey of weak-line and strong-line stars	30
B (2). LOCAL STRUCTURE: WORK IN HIGH LATITUDES	31
C. PROPER MOTIONS AND RADIAL VELOCITIES	33
(1) Proper motions: photographic astrometry of faint stars	33
Variable stars	33
Kapteyn's Selected Areas	35
Milky Way regions of special interest	36
T Tauri stars	36
Stars in the outer regions of open clusters	37
Late M-type giants found in the infra-red survey at Cleveland	37
Stars with large proper motion	37
Stars in the O associations	38
(2) Proper motions: meridian observations	38
(3) Proper motions: the repetition of the AGK 2	39
(4) Radial velocities	40
D. SPECIAL PROBLEMS	43
(1) Study of associations	43
Nomenclature	43
Internal motions	43
Physical properties of stars in associations	44
Absorbing matter in associations	45
(2) Fundamental determination of the constant <i>A</i> of galactic rotation from radial velocities	45
(3) Trigonometric Parallaxes	46
Calibration of spectroscopic absolute magnitudes	46
Absolute magnitudes and motions of sub-dwarfs	46
(4) Stars with large proper motion	46
(5) Interstellar absorption: dependence on wave-length	47
(6) Interstellar polarization	47
REFERENCES	49
APPENDIX	52

