

issue of the *Bureau of Standards Journal of Research*. Extension of photographic observations and classifications of rare gas spectra beyond 12000 Å was also reported.

10. It is recommended that further investigations be made of the differences in wave-lengths of lines observed at the centre of the Sun and those measured with integrated sunlight. Adopted.

Mr Dingle suggested that observations of limb and cusp spectra during solar eclipses would be of interest in this connection and Mr Babcock advised co-operation with the Solar Physics Eclipse Committee.

11. It is recommended that observers possessing gratings suitable for the purpose should give attention to the weak solar lines of wave-lengths greater than 6000 Å. Adopted.

12. It is recommended that intending observers should endeavour, through the President of the Commission, to reach some understanding as to the distribution of the work necessary to give effect to the foregoing recommendations. Adopted.

Mr Babcock promised to continue the work of measuring standards in infra-red arc and solar spectra at Mt Wilson. Mr Meggers stated that no facilities were at hand for the determination of solar spectrum standards at the Bureau of Standards but that interferometer measurements in arc spectra of metals and of gases would be pursued both in the infra-red and in the ultra-violet. Spark spectra in the ultra-violet will also be investigated.

Commission 16. (PLANETS, COMETS AND SATELLITES.)

PRESIDENT: Rev. T. E. R. Phillips.

SECRETARY: Miss M. Harwood.

Two meetings of Commission 16 were held. The Commission met also with Commission 22 to confer concerning the advisability of transferring the Physical Observation of Comets to Commission 22. It was decided not to recommend any change.

The Draft Report was amended and approved.

It was voted that the President of the Commission appoint a secretary to circulate information or requests for co-operative work on comets. It was agreed that the President appoint a special committee from the members who are observers of Mars to consult on Martian nomenclature and to report recommendations to the next meeting of the International Astronomical Union.

Recommendations. The following recommendations for future work were adopted by the Commission.

Visual observations of the planets should not give way entirely to photography. In the case of Mercury, it is advisable that the suspected variations of the dusky regions be followed throughout its orbital motion. And on the Moon the variation in the extension of the bright aureolas surrounding small lunar craters should be studied.

It is essential that visual observers give special attention to the motions of markings in the S. Tropical, N. Temperate, and N.N. Temperate regions of Jupiter. A discussion of the variations of the latitudes of the Jovian belts should be undertaken. Since Jupiter will soon be south of the equator, it is important that as

many observations as possible be obtained in the southern hemisphere. The President of the Commission has been delegated to organize systematic work on Jupiter among the observers of the southern hemisphere.

Frequent micrometer measures (timed to a fraction of a day) should be made of the distance of the two edges of Saturn's ring A and of the outer edge of ring B from the globe of the planet in order to study the eccentricity of the rings. The results obtained hitherto have been discordant. For this work telescopes of long focus should be used.

An extended use of the improved forms of energy measuring devices now available, such as the photoelectric cell and thermocouple, is very desirable in planetary research. It is desirable also that the large amount of photographic material which is being obtained be used for the measurement of the position, form, and brightness of planetary details.

It will be useful to continue for a number of years the study of the polarization of the planets which have an atmosphere, since the polarization appears to be subject to important variations, particularly in the case of Mars and the polar caps of Saturn.

Interferometer measures of the four great satellites of Jupiter should be continued.

It is important that the spectra of the major planets be studied further.

Extended studies of the light of the asteroids (433) Eros, 1932 EA, and 1932 HA, should be made. At future oppositions Eros should be observed with the largest telescopes of the world in order to determine its length and shape.

Observers having the use of large telescopes should pay attention to the stellar nuclei of comets and endeavour to determine their dimensions by photometric methods. The spectrum, hitherto unidentified, of the light of the gases immediately enveloping the stellar nuclei of comets should be studied with the greatest possible dispersion in order to obtain the exact wave-lengths.

In view of the conclusions of von der Pahlen and Kohlschütter based on a study of the structure of the coronal tufts on certain eclipse plates and its resemblance to that of the tails of comets, and the theories of their explanation ("Untersuchungen über die Sonnenkorona," von E. v. d. Pahlen und A. Kohlschütter, *Veröffentlichungen der Universitäts-Sternwarte zu Bonn*, Nr. 24, 1930), it is desirable that photographs of comets, especially those of large scale, be studied systematically in relation to the possible explanation of the formations reproduced on the plates by Brédichin's hypothesis of repulsive forces and by the magnetic hypothesis of Störmer.

(A clear statement of work which is urgent on comets will be found in a paper on "The Organization of the Physical Observations of Comets," by N. T. Bobrovnikoff, to be published in *Popular Astronomy* within the next few months.)

Commission 17. (LUNAR NOMENCLATURE.)

PRESIDENT: Prof. E. W. Brown.

SECRETARY: Dr F. E. Wright.

The report of the President of the Commission was read and accepted without change.

On the motion of Sir Frank Dyson, seconded by Dr W. S. Adams, it was unanimously voted that:

"Commission 17 recommends to the Executive Committee that the list of