

PLANETARY SECTION

ANNOUNCEMENT: Following the retirement of Geoffrey Gaherty as National Co-ordinator of the Planetary Section for the National Observing Program, Miss Isabel Williamson asked me to assume this position. The program as established by Mr. Gaherty will be continued. Information and assistance in observational activities will be made available to all R.A.S.C. Centres and members, with reports on the various planetary programs issued on a regular basis.

JUPITER

A complete lull to observations of this planet occurred this summer because of the close proximity of the sun and the early rising time required for observers; as of October, Jupiter will rise at about midnight and observations throughout the remainder of the year should be much easier.

If enough observations are forthcoming, a strip map of Jupiter for 1966 will be prepared showing a sequence of changes occurring within the atmosphere of the Jovian disk. All contributors are urged to review the very excellent advice and instruction given by Mr. Gaherty in Planetary Bulletins Nos.3 and 4. Do not hesitate to ask the writer for additional report forms.

SATURN

Observations of Saturn have generally been rather scanty, and is attributed to the lack of obvious change in the appearance of its belt system. However, a very interesting apparition will be afforded this year in the disappearance of the ring system as observed from earth. This arises from the rings being presented to us edge-on as the earth passes through the plane of Saturn's equator, with which the ring system coincides. The viewer will then be afforded a unique aspect of the planet, a dusky, banded, ringless oblate spheroid with possibly a thin shadow of the ring girdling the planet. As this happens twice in $29\frac{1}{2}$ years, every effort should be made to record it.

RING SYSTEM

A challenge to the observer will be to decide on what specific date the ring system is no longer visible in a given telescope. The aperture of the telescope, magnification and focal length, as well as the transparency of the skies and seeing conditions, all contribute to the resolution of this apparition, and this information should all be noted on the drawings or reports submitted by each individual. Interested members adopting this activity are urged to observe as systematically as possible, with observations becoming more frequent as the "ring disappearance" dates of October 30 and December 17, 1966, approach.

I have been unable to find any information concerning the aperture/bright line ratio required for resolving the edge-on appearance of the ring system; consequently, a bulletin based on the compiled results of reports submitted will be prepared at the conclusion of the event. The problem is different from the classic "Dawes limit". Dawes used the spatial separation (usually in fractions of seconds of arc between two close stars) to define the resolving power of a telescope, whereas it is predicted the very thin, very bright line of Saturn's ring B just might be more readily seen at some thickness less than $1/4$ second of arc.

The following table lists the apparent diameter in seconds of arc of the outer edge of the outer ring (ring B), times being 0 hours Universal Time.

| <u>Date</u> | <u>Major Axis</u> | <u>Minor Axis</u> | <u>Date</u> | <u>Major Axis</u> | <u>Minor Axis</u> |
|-------------|-------------------|-------------------|-------------|-------------------|-------------------|
| Sept. 28 | 43.80 | 0.69 | Nov. 27 | 40.88 | 0.18 |
| Oct. 2 | 43.74 | 0.58 | Dec. 1 | 40.60 | 0.17 |
| 6 | 43.65 | 0.48 | 5 | 40.32 | 0.14 |
| 10 | 43.54 | 0.38 | 9 | 40.04 | 0.11 |
| 14 | 43.41 | 0.28 | 13 | 39.76 | 0.06 |
| 18 | 43.25 | 0.20 | 17 | 39.48 | 0.01 |
| 22 | 43.08 | 0.12 | 21 | 39.21 | 0.05 |
| 26 | 42.88 | 0.05 | 25 | 38.94 | 0.11 |
| 30 | 42.67 | 0.02 | 29 | 38.68 | 0.19 |
| Nov. 3 | 42.45 | 0.07 | Jan. 2/67 | 38.43 | 0.27 |
| 7 | 42.21 | 0.11 | 6 | 38.18 | 0.35 |
| 11 | 41.96 | 0.15 | 10 | 37.94 | 0.44 |
| 15 | 41.70 | 0.17 | 14 | 37.72 | 0.54 |
| 19 | 41.44 | 0.18 | Feb. 3 | 36.75 | 1.10 |
| 23 | 41.16 | 0.19 | Mar. 3 | | 2.01 |

Observations that should be made concurrently with the above include scanning the disk of Saturn for unusual markings, such as the famous white spot on the equatorial zone discovered by W. Hays of England in 1933. A search is also recommended for any of the "Jupiter Type" markings as detailed on page 2, "Observing Jupiter", Bulletin No. 4, July 1962.

Observations of Saturn's satellites might prove very rewarding at this time, since Saturn was in opposition on September 19. On this date, and for some days following, the earth is very near the orbital planes of the satellites and hence the apparent orbits approximate straight lines. It might be possible to witness a satellite transit the disk of Saturn, most probably Titan.

Further information of assistance to the observer in computing satellite positions will be found on pages 57 and 58 of the OBSERVER'S HANDBOOK for 1966.

Do not hesitate to request any help or instruction on any of the programs within this section. All requests will be answered and all observations submitted will be acknowledged.

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