

QUEEN'S UNIVERSITY ASTRONOMY CLUB ^{Jan¹⁰}, 1977
 AND THE
 ROYAL ASTRONOMICAL SOCIETY OF CANADA

1st MEETING OF 1977:

TUES. JAN. 18 at 8:00 pm

ELLIS HALL, QUEEN'S.

I'm not sure what's on the agenda, but am sure that Chris has something cooked up.

Astronomical Phenomena (from the Journal)

	d.	h.	m.	
Mon	17	20		Mercury 2° S. of Moon
Tues	18	07		Mars 6° S of Moon
Wed.	19	09	11	New Moon
Fri.	21	02	04	Appulse: SAO 176953 and Pallas *
		11	52	Appulse: SAO 176943 and Pallas *
Sun.	23	04		Pluto stationary
		06		Venus 3° S. of Moon
→ Thurs.	27	00	11	First quarter Moon
→ Fri.	27	07		Venus greatest elong. E. (47°) •
Fri.	28	01		Moon at apogee (404,350 km) +
		05		Jupiter 1° N of Moon
		19		Mercury greatest elong. W. (25°)

* "A planetary appulse is a close approach of a star and a solar system object as seen from the earth" There will be only 7 major appulses in 1977 and these two are on the same day! SAO 176953 + 43 are stars; Pallas is the name of an asteroid.

• "Elongation is the difference in longitude between an object and a second object." In this case, the sun.

+ Apogee means the moon is farthest away from the earth.

Thanks to Leo Enright for the rest

I apologize for the type of type that follows. I'm not the best typist around and my machine is almost old enough to be the one referred to in the stanza I once read:

With this old machine of mine,
With damage to their palms,
King Solomon typed the Proverbs,
And King David typed the Psalms..

SOME HINTS FOR JUPITER PHENOMENA OBSERVERS.

I know there are some members of the club who are new to observing and are anxious to pick up some tips that might be helpful. To all those people, I would like to say that there is probably nothing to compare with observing the Phenomena of Jupiter's satellites, and Jupiter itself for that matter. Even if you are using a very small telescope, or are planning on buying a fairly inexpensive one, you will actually be amazed at what you can see and learn about the Giant Planet. here are some things that I Have learned, sometimes the hard way, which might be helpful:

1. Buy the Handbook, if you have not done so already. You'll see what I mean later!

2. Plan your observing sessions. Using the Handbook, pick out times in the evening and early night over the coming month when certain phenomena such as the transits of eclipses of the satellite, Io, are to be observed.

For example: Let' assume that you do not want to be out later than midnight. (You turn into a pumpkin or for whatever reason.) On glancing at the Handbook you find out that for January 1977, you may observe on the following nights, see a complete start to finish eclipse, transit, or occultation of at least one Galilean satellite, and still meet your time requirement: Jan. 7, Jan.11, Jan.12, Jan.14, Jan.15, Jan.127, and Jan.30. There are 7 for you. Even if the weather does not cooperate on all of them, you will know when you will next be observing.

Keep a personal observing -calendar for this purpose, and mark such upcoming dates.

3. keep an Observations Sketch Pad, and in make little sketches at appropriate times of satellite positions, etc.. Believe me!-It's much easier than trying to remember later. Over a night a lot of changes occur. Record also the time of each sketch, and (from your Handbook) the order of the satellites in the sketch, and the position (coordinates) of the planet.



4. Make G. R. S. Recordings i.e. whether or not you saw the Great Red Spot. (I have seen it but wish I could say precisely how many times or on what percentage of observing occasions I have seen it.


5. Record any observed variations from predicted times of phenomena occurrence according to the Handbook. If accurate timepieces are used, and reports are made, this can be useful to the professionals. (Remember how Io's Occultation Reappearance "deked us"out by a full minute the night of our last meeting. - or was it our watches???)


6. Study the diagram on page 35 of the new 1977 Handbook for the order of occurrence of the phenomena of a particular satellite. For Io, the order is according to the inner circle; for Ganymede and Callisto, it is according to the outer circle in the diagram.


Here is an example of my sketch pad for a night of observation not long ago. (- Hope I followed my own rules!!)


Observations Mon. Nov. 29, 1976.
 Times are E.S.T. (approx.)


1) Venus  5:30 p.m. approx. α : $19^{\text{h}} 20^{\text{m}}$
 δ : $24^{\circ} 10^{\text{m}} \text{S.}$
 (Gibbous)  6:20 p.m.


2) Jupiter  5:30 p.m. approx. α : $3^{\text{h}} 30^{\text{m}}$
 δ : $17^{\circ} 55^{\text{m}} \text{N.}$
 Order of Galilean satellites
 ps 4 3 2 1 before transit.

III  7:20 ← near beginning of Io's transit.



IV  10:35 The little black circle is the shadow of Io crossing the disk of the planet. It was clearly seen.

V  10:38 — Moment of Transit egress (4th contact.)

VI  10:42

VII  10:46 — Near the end of the shadow transit.

G.R.S. — not visible.
 Unknown star (?) appeared close to Jupiter. (Est. mag.: 4.5-6.5)

3) Saturn  Titan  10:45 p.m. approx. α : $9^{\text{h}} 17^{\text{m}}$
 δ : $16^{\circ} 35^{\text{m}} \text{N.}$
 (Ring opening clearly viewed.)

L.E.

