

R E G U L U S

THE NEWSLETTER OF THE

ROYAL ASTRONOMICAL SOCIETY OF CANADA - KINGSTON CENTRE

OCTOBER, NOVEMBER, 1981

THE MINIMUM OF 1981

The primary item of concern in the minds of most amateur astronomers in this area over the last month has been a "minimum". This one is, as yet, less well known than the Maunder Minimum or the Spörer Minimum; in fact, the one of which I am writing has as yet not received its name but for the moment it will be referred to as the "Minimum of 1981". Of the other minima, the first one is the name given to the period of almost no observations of sunspot activity between 1640 and 1720 A.D., the second one refers to a time similarly lacking in any significant sunspot activity between the years 1400 and 1510 A.D.

The "Minimum of 1981" was a period lacking in observations not just of sunspot activity but also of any kind of celestial event. Observations were brought to an absolute minimum. Many observers, usually keen on using every available night, had to go for periods of five or six weeks without a single viewing of the heavens--all because of the weather with its rain and wind, and more and more of the same day after day, and week after week. My own observing log contains not a single entry between Thursday, September 10th and Monday, October 12th--a period of over a month, and the entry of September 10th was the only one for observing between August 28th and October 12th (a period of no less than 45 days).

Is it any wonder that astronomers in this area have become quite discouraged, and very envious of our friends in the Tucson Branch of our Centre? If only, for a few days at a time, we could exchange places with David Levy and the other members of our Tucson Branch! Let's hope that it is quite a while before we again have such a period lacking in observations. Maybe the September "Minimum of 1981" will stand out as a very unusual period of time. We hope!

NEWS FROM MARYLAND

Some of our members may recall that in the June issue of this newsletter we published a very pleasant letter from Mr. Anderson who lives in Baden-Solingen in West Germany. In our last issue we published a report from Rik Hill in Tucson. It is hoped that we will continue to receive correspondence from our members who live a long way away and cannot, therefore, attend many of our meetings. We enjoy keeping in touch and would be pleased to publish even more correspondence from our very valued confreres who live under far distant skies.

Many times over the past two years we have received very interesting letters from Mr. Gus Johnson, a very well-known observer who lives near Swanton, Maryland. Mr. Johnson has often shared with us his observing experiences and has even sent along some very fine photographs for our enjoyment--photographs of both the area where he lives including his observing site and some excellent astrophotos which he has taken.

The most recent letter from Mr. Johnson was received just hours before our regular meeting of October 16th and we were happy to read it at the meeting and through the letter to introduce our new members to Mr. Johnson, whose interest in and dedication to astronomy are an inspiration to all of us.

Here then are two letters that I have received from Mr. Johnson who lives under the clear skies of the Appalachian Country of western Maryland.

Dear Mr. Enright:

Aug. 28, 1981

I am glad the mail strike is over. While spring observing was fairly good, the coming of summer brought cloudiness and haze; so there was little to report to the Kingston Centre. June had over 6 in. of rain, and so did July. August has been much drier with

about 2.2 in. so far and a few clear nights. On Aug. 19 I chanced to learn of a public star night a few evenings later at the Bear Run Nature Centre, a half mile from "Fallingwater", the famous house built by the noted architect, Frank Lloyd Wright. It is all part of the Western Pennsylvania Conservancy, which has acquired hundreds, or thousands of acres of beautiful woodland. The speaker for the astronomical program was to be the president of the same astronomical group in Pittsburgh to which I belong. The weather was favorable and to our surprise 93 people turned out, and he had at hand only 2 or 3 telescopes. I also brought 3 of mine, and even so we were swamped with "customers". I could not manage 3 telescopes single-handed, but no one showed impatience and all apparently enjoyed seeing the heavens. Eventually everyone of the visitors departed and the three astronomers had the skies to themselves. Then one departed and then myself, after the moon had risen, around 1:15. To the unaided eye stars to about mag. 7 were visible and it was a real feast to be there. Tom Reiland, of the AAAF, said he saw M 33 with the unaided eye, but I failed to. While the transparency was excellent, the seeing was very poor, since we were set up on the parking lot. However, the chill of the night was dispelled by the heat radiating upwards so comfortably, and had the night been damp, this heat would have hindered the dew. (Chilly nights, to 8°C have occurred this month and even frost. I saw some autumn color even last week. Where I live most winds come off the lake, and are tempered.) At the Bear run Nature Centre we noticed numerous meteors radiating from Pegasus (Aug. 22).

As for meteors, the Perseids were clouded out. So was the lunar eclipse.

I recently bought an Edmund R.A. d.c. drive corrector, and it seems to work well. It is a nuisance to have to remove my car's battery, however. I set up for photography on Aug. 17th, a rare clear night, and forgot about the moon. In the midst of my first photo, I noticed the bright glow coming up in the east! It was a photo of Scorpius, clear of the horizon. Passing autos likely trailed the bottom, so I tried a second moonlighted, but shielding the lens with care, and then a telephoto shot of the sting, hoping to catch an interesting star chain near it.

I'm glad some of your centre's members got to attend the Victoria G.A. It has been too many years since I have seen the beautiful, wild British Columbia scenery and Victoria and its famous gardens.

Clear skies,
Gus Johnson.

In reply, we may say, Mr. Johnson, that we were slightly more fortunate in connection with both the Perseid shower and the lunar eclipse but it is very rare that we have sky transparency of the type you described having on Aug. 19th.

October 7, 1981

Dear Mr. Enright:

After a cloudy, hazy summer, a little improvement has come in observing, at the end of September. I was so desperate to get in some observing and photographing that in spite of high winds I set up my 2.4 in. for photography and my 5 in. for observing. I went indoors for something and heard a crash and the wooden screen I use to shield my telescopes from the headlights of passing cars had blown into the 2.4 inc., smashing the shield to pieces, even snapping one of its 2x4's. The telescope fell onto its Amici prism crushing the plastic casing, thus

taking up the shock, but the prism seemed unbroken. The piggy-back camera had an off-set mounting hole, so merely unwound a quarter turn, thus also taking up the shock instead of bending the bolt or breaking anything. I removed the debris and resumed photography. Two nights later I set up the 2.4 and 5 inchers for comparison on double stars and the 2.4 inch showed no sign of its ordeal's having had any adverse affect on it. (I sent the crushed Amici prism back to Edmund, in hopes that it can be repaired.)

Autumn colors are near their peak in my area, but without the temperature reaching freezing, due to the wind over the lake. Some areas, not down-wind of the lake had frost in late August.

Clear skies,
Gus Johnson.

What an unfortunate accident! As many of us have learned, Murphy's Law seems to apply to astronomical equipment whenever and wherever and however possible. Thank you, also, Mr. Johnson for the photographs you enclosed. The one you took of the Scorpius area is an excellent astrophoto.

Many of us have dreamed of having you come and visit us and attend one or two of our meetings.

FOR YOUR COMPENDIUM OF ESOTERIC FACTS

Did you realize that there was one famous cluster of stars through which no less than three planets passed recently? The cluster is the very well-known Praesepe or Beehive cluster (also known as M44) in Cancer. Though this very rich cluster is more than a degree and a half in diameter, the three planets all passed within less than 1/3 of a degree of the centre of the cluster, and all of them did so this past summer within a period of less than two and a half months. To be precise, here are the details of the three events:

- (1) On July 5th at 14^{hr}.U.T. Venus was 18.6 arc minutes from the centre of the cluster.
- (2) On August 5th at 4^{hr}.U.T. Mercury was only 10.8 arc minutes from the centre of the cluster.
- (3) On September 13th at 9^{hr}.U.T. Mars was 13.6 arc minutes fran the centre of the cluster (as stated on page 4 of the last newsletter where it was suggested that this might be observed, but weather probably prevented you from doing so).

REPORTS AND OTHER ITEMS

1. Because of the very bad weather, there have, of course, been very few observing reports for September and early October.
2. Around mid-October several of our members, who have been engaged in observing the sun, have recorded seeing very large sunspots.
3. An excellent Auroral display was presented on Tuesday, Oct. 13th. It continued for a couple of days and was probably the result of the solar activity which caused the unusual sunspots seen by several of our members.
4. We welcome Gerald Schieven to membership in our Centre and appreciate the fact that he has consented to act as secretary until the time of our next Annual meeting.
5. Anyone who is interested in attending the fall meeting of the N.F.C.A.A.A. should see me as soon as possible for full details and an entry form. The meeting will be held on Saturday, November 7th at Monroe Community College, 1000 East Henrietta Road, Rochester, New York.
6. Several interesting configurations of moon and planets occur over the next month and a half. Try to observe them or perhaps record them on film. They are:
 - (1) the configuration of Moon, Mars, and the star Regulus, in the early morning sky of Oct. 22nd. The moon is only about 1 1/2 degrees north of Mars.
 - (2) the configuration of the Moon and Venus in the western sky on the evening of Oct. 31st (Hallowe'en).

- (3) the early morning arrangement of celestial bodies on November 20th. It includes the Moon and Mars, and Jupiter and Saturn. Mercury is also in the same area of the sky though it is lower than the others, and will probably be extremely difficult to spot before sunrise. By observing the eastern sky for three or four mornings after the 20th, you may be able to see the moon advancing past all of those planets. Try watching where you have a good eastern horizon and about a half-hour before sunrise.
7. There are two major meteor showers that may well be worth observing over the next month:
 - (1) The Taurids, a shower that extends over a very long period of time and gives slow-moving and often very bright meteors, reaches its peak around November 5th, though you may see members of this group at any time during the month of November;
 - (2) the Leonid shower is usually about four days above quarter-strength and reaches its peak about November 17th. Its members are very fast and often a bright greenish or bluish in colour. This is the shower that produced enormous storms in the 1800's and again in the 1960's with the one of 1966 being the greatest storm ever recorded--thousands per minute! Try to observe some Leonids this year around the 17th of the month and before moonrise which is well before midnight at that time.
8. Our centre will be having its annual meeting on Friday, November 27th, at 8:00 p.m. Any members who wish may join the executive at the dinner to be held at 6:15 p.m. that evening at Aunt Lucy's Restaurant.
9. Plans have tentatively been set for yet another trip this year to the Holleford Crater, this one to be on Sunday, November 8th. For information on arranging rides from Kingston, you may phone Angelika (389-4119).
10. The last newsletter published the list of dates for upcoming meetings. It has been decided that at meetings at which we do not have a special guest speaker, our regular members will give a short talk on topics which are of interest to them or are within their areas of specialization.

Here again is a list of meeting dates along with the names of those who have volunteered to give a short talk and the topics they have chosen:

	Oct. 30	Gerald Schieven	Degenerate Stars
	Nov. 13	Leo Enright	Astrophotography: A Basic Introduction
	Nov. 27	Annual Meeting	A slide show. (Bring your own good astro-slides).
	Dec. 11	Angelika Hackett	Sunspot Observing
(1982)	Jan. 8	Leo Enright	The G.A. Paper: An Observatory Building Project.
	Jan. 22	David Stokes	The Scandinavian Eclipse
	Feb. 12	Leo Enright	Observing and Photographing Aurora
	Feb. 26	Gerald Schieven	Another Type of Stars
	Mar. 12	Ted Hsu	Stars (Another Type)
	Mar. 26	(still open)	
	Apr. 16	Terry Hicks	Determining Latitude
	Apr. 30	(still open)	
	May 14	(still open)	
	May 28	(still open)	
	June 11	(still open)	
	June 25	(still open)	

The other dates in 1982 are open for suggestions from any of our members, who are urged to step forward with their ideas and, if possible, to contribute a short talk that may be of interest to the group.

Please keep this list in a place that is convenient and remember that unless there is a notice about a change, all meetings will take place in Ellis Hall, Room 222 and at 8:00 p.m.

Note that because of the Easter Weekend being the second weekend in April, 1982, our meeting dates have been changed from the second and fourth to the third and fifth Fridays, that is to April 16th and April 30th.

11. Your newsletter editor has recently received almost no material for publication in these pages--at least from those who reside in this area. (The same is not

exactly true for those who have joined us from hundreds or thousands of miles away).

If you have any ideas for writing on an astronomical topic, may I urge you to commit it to paper and, as soon as possible, to ^{send it} me at this address:

Regulus, Box 141, Station "A", Kingston, Ontario K7M 6R1

12. Our dues are due! To continue enjoying all the benefits of membership in our society, be sure you pay your fees for 1982. They fell due on October 1st and should be paid as soon as possible. Pay them to the Treasurer at the next meeting or send your cheque payable to the TREASURER OF THE KINGSTON CENTRE to the address given above.

The fee schedule is as follows:

Ordinary Members	\$ 20.00
Youth Members (under 18)	\$ 12.50
Life Members	\$300.00

If you have forgotten the long list of benefits available to members, please send a postcard to the above address and we will gladly send you one.

Hope to see you at the meetings!

Please come and bring a friend!

Clear skies for the rest of '81!

Good observing!

Leo Enright.

P.S. Some of these newsletters contain an additional 3 pages. I would like you, in this case, to have a copy of our revised Constitution, the one that was unanimously approved by our membership at the meeting of September 11th. If your newsletter did not have one and you wish to obtain one, please send a postcard to the above address.

L.E.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

KINGSTON CENTRE

CONSTITUTION -MARCH 1961

Revised Aug., Sept., 1981

Article I - Name of the Centre

The name of the Centre shall be "The Royal Astronomical Society of Canada - Kingston Centre, hereinafter referred to as the Centre.

Article II - Objectives of the Centre

The objectives of the Centre, in conjunction with those of the Society, shall be to promote interest in and study and knowledge of astronomy and allied sciences by lay and professional persons.

Article III - Membership and Annual Fees

1. Membership in the Centre shall be open to those who are interested in astronomy and who have been duly elected to the Centre or who have been transferred at their request to the Kingston Centre.
2. The classes of membership shall be those named in the Constitution and By-laws of the R.A.S.C. -- Ordinary Members, Youth Members, Life Members, and Associate Members.
3. The annual fees for all classes of membership shall be the same amount as listed for the current year in the By-laws governing the R.A.S.C. The annual membership fees which are payable to the Treasurer of the Centre between October 1 and December 31 entitle the member to the Society's and Centre's publications for the following calendar year.

Article IV - The Officers and the Executive Council

1. The officers of the Centre shall be Honorary President, President Vice-President, Secretary, Treasurer, Newsletter Editor, National Council Representative, and Librarian.
2. The Executive Council shall be made up of the President, the Vice-President, the Secretary, the Treasurer, and the National Council Representative.
3. The Executive Council shall have the responsibility for the direction and management of the Centre.

Article V - Election of Officers

The candidates of nomination shall be:

1. that the person nominated shall be a member in good standing of the Centre,
2. that the assent of the nominee shall have been obtained,
3. that at least two who are members in good standing of the Centre shall make the nomination.

Article VI - Duties of Officers

1. The President shall preside at all meetings at which he is present; in his absence the Vice-President shall preside and in the absence of these Officers, the meeting shall appoint a Chairman.
2. The Vice-President shall, in the absence of the President, preside at the meetings, and in other ways assist when possible with the management of the affairs of the Centre.
3. The Secretary shall keep accurate minutes of all regular Centre meetings and the meetings of the Executive Council and other activities of the Centre, conduct the correspondence of the Centre, and work with the Newsletter Editor to see that members are informed about meetings. The Secretary shall submit to the Annual Meeting a report on membership, meetings, and other centre activities for the preceding year. After the report has been approved by the Executive Council, it will be sent by the Secretary to the Secretary of the R.A.S.C. before the 15th day of February in each year.
4. (a) The Treasurer shall keep accurate records of all subscription fees and other monies received, pay bills as sanctioned by the Executive Council, and submit to the Annual Meeting a financial statement for the Centre's preceding fiscal year including a statement of revenue and expenses and a statement of assets and liabilities. These statements shall, after being approved by the Annual Meeting of the Centre, be forwarded by the Treasurer of the Centre to the Treasurer of the R.A.S.C. before the 15th day of February in each year.

(b) On the 15th day of January, April, July, and October of each year, the Treasurer of the Centre shall submit to the Treasurer of the R.A.S.C. the required 60% of all annual membership fees received by him during the quarter-year ended on the last day of the preceding month along with a report listing the names of the members who paid their fees during the said quarter-year, the amounts paid by each of them, and other pertinent information.
5. The Newsletter Editor shall be responsible for the production at regular intervals of the Centre's newsletter.
6. The Librarian shall be responsible for maintaining the Centre's library of books, periodicals, newsletters, and other materials.

Article VII - Meetings

1. The Annual Meeting of the Centre shall be held each year on or before the last day of January. At this Annual Meeting, Annual Reports shall be submitted by the President, Secretary, and Treasurer. The date of the Annual Meeting shall be announced at least one month in advance and shall be published in the Centre's Newsletter.
2. Other Regular Meetings of the Centre for the presentation of papers, addresses, and a variety of matters of interest shall be held on a regular basis and no fewer than ten times per year. Notice of the dates of the meetings shall be given in the Centre's Newsletter.

Article VII - Meetings continued

3. Special meetings of the Centre may be called by the President as he shall judge necessary and notice seven days in advance shall be given to each member of the Centre.

Article VIII - Committees

The Centre may establish special committees or groups for definite purposes, such as the Observers' Group. The President may invite a representative of such group, if not a member of the Executive Council, to attend the Executive Council meetings, but the representative may not vote at such meetings.

Article IX - Amendment of the Constitution

1. This Constitution may be amended at the Annual Meeting by a two-thirds vote of the members present and noting. A vote by secret ballot may be requested and must be employed if requested by a simple majority of those present and voting.
2. A proposal for an amendment to the Constitution must be submitted in writing to the President and the Secretary at least thirty days before the Annual Meeting. The Secretary shall prepare a written draft of the Amendment for presentation to each member of the Centre and if possible shall see that it is published in the Centre's Newsletter prior to the Annual Meeting.

Article X - Associate Members of the Centre

Associate Membership in the Centre shall, upon request, be extended to the spouse and children under 18 years of age of any member in good standing of the Centre. Such associate member(s) is/are entitled to attend the meetings of the Centre and to borrow from the Centre's Library but shall not be entitled to vote or hold office in the Centre and shall not receive the publications of the R.A.S.C. The annual fee prescribed for Associate Membership in the Centre shall be 25% of the Annual Membership fee prescribed for Ordinary Members.