

MONTHLY NEWSLETTER

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

HALIFAX CENTRE

NOVEMBER 1961

AURORA GROUP: The October issue of GALAXY reported that aurora was seen in the Halifax area, on the night of September 30/October 1. According to authoritative reports this display was associated with a solar flare which occurred on September 28th. and was seen from coast to coast and as far south as California, Nevada and North Carolina. Newsletter # 50, IGY World Data Centre A, Aurora Archive-Visual Observation, Cornell University, Ithaca, New York, had the following to say regarding this particular auroral display:

"On the night of September 30/October 1 we had the biggest aurora which we have seen for quite a while, although the aurora which we could not see on July 28th may have been larger. ---- According to our magnetic records this aurora started suddenly in the afternoon and it was visible as soon as the sun was sufficiently low. We have some reports from 20:00 hours DT. There was a cloudy weather front extending from Texas up towards Michigan and the northern border of the United States west of there was cloudy almost to the Pacific Coast. There were gaps in this cloud cover but complete coverage was not possible.

Three hours U.T. was not the time of greatest southern extent, which occurred both earlier and later but it was a time when there was a rapid increase in activity for a short period. ---- rayed arcs were visible all the way across the United States and flames were reported all along the east coast. The rayed forms were reported moving to the west both at the east coast and the west coast. Red color was reported by observers near the aurora and occasional blue and yellow patches.

The aurora retreated to the north during the next hour and was almost out of sight on 05 hours U.T. The 06 hour U.T. was a time of heightened activity which had reduced a little by 07 hours U.T. At 09 hours U.T. the aurora had come south again but the clouds were worse and people in the east had finally gone to bed, except for the Weather

Bureau reporters. Rayed arcs and flames are reported in the west and rays in the east. The motion is now from west to east as well as can be described. Actually, as many of you know, when the aurora is overhead and active, motion may be seen in many directions. The flames are reported as going up.

We do not have many reports of radio and TV effects yet, but those we have indicate that the radio, although disturbed, was not as badly disturbed as might be expected from such a big aurora. This applies to the early stages; later in the evening a shortwave blackout occurred. TV reception not bad, presumably because of interfering stations from far away. Some of our observers were alerted by this. Others were alerted by TV announcers saying that a big aurora was going on.

The above description is by no means complete, because we have not included many of the Weather Bureau reports. Some color pictures were taken using a 1.5 lens and the Kodak fast Ektacrome with a 10 to 20 second exposure. These resulted in some nice color pictures of this aurora.

This aurora started suddenly and its magnetic effects are described as a sudden commencement type. Such auroras are not yet predictable on the basis of the 27 day effect, and generally do not repeat. It will be interesting to watch on October 27 and see how things look. ----"

The intense but short-lived solar flare which took place on September 28th produced a wide variety of terrestrial phenomena. It appeared at solar latitude 15 degrees north, and was 29 degrees of solar longitude east of the sun's central meridian. It began at 22:02 U.T., reached a maximum at 22:24 and faded gradually during the next three hours.

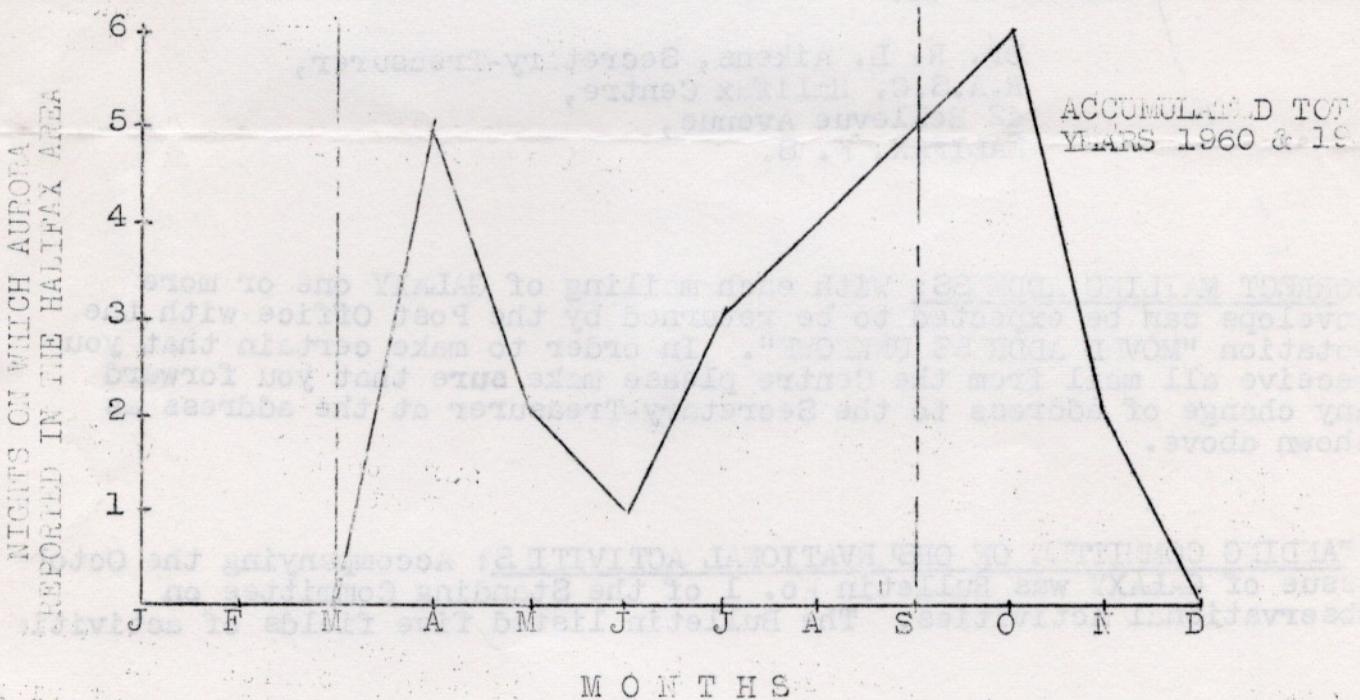
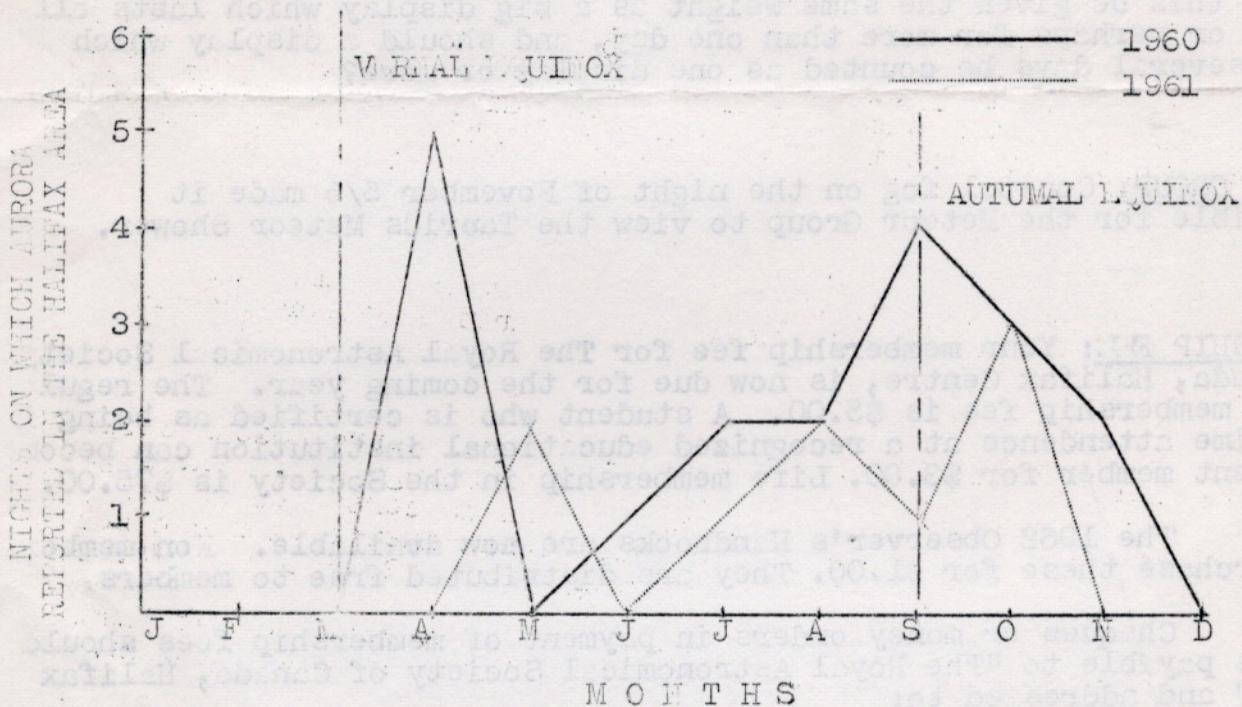
As reported in the October issue of GALAXY the aurora on the night of September 30/October 1 was first seen, in the Halifax area, by Mr John Connelly at 21:30 ADST and was still visible at 03:00 ADST as reported by Mr Harold Curran and Mr Brian O'Hagan.

At the last meeting of the Halifax Centre, on the evening of October 25th, all those present were alerted for the possible occurrence of aurora on the night of September 27/28. Providing the aurora did reappear it would indicate a 27 day reoccurrence cycle had taken place.

On the evening of September 26/27 Mr Bryan O'Hagan reported sighting a weak auroral glow in the north at 20:00 ADST and this was confirmed by Mr Bert Allen. Cloud cover, at 21:30 ADST, prevented following this auroral display to determine how long it continued. The night of September 27/28 was overcast in the Halifax area. On the night of September 28/29 Mr Harold Curran reported weak rays in the north and north east, between an elevation of 30 and 60 degrees, at 19:00 ADST. Mr John Connelly observed rays in the north and west extending to the zenith and passing into the southern sky at 19:45 ADST. Also homogeneous arcs at an elevation of 60 degrees in the west and east. However by 20:00 ADST only a weak glow could be seen in the north and east and this had disappeared by 20:15 ADST.

Thus it would appear that the aurora which was seen, in the Halifax area, between the nights of October 26/27 and 28/29 was caused by the same solar activity mentioned earlier and verifies the 27 day rotation cycle for this display. It is of interest to note that all aurora which was seen between the nights of October 26/27 and 28/29 all appeared shortly after evening twilight producing weak displays were of short duration.

The Aurora Group has now been active for approximately two years. The amount of data collected, being small, does not lend itself to statistical analysis but the graphs shown below do indicate the probable trends.



It is not often that significant statistical results come out of such a small number of observations. However, the graphs shown above do happen to show the preference for these displays to occur in the periods near the equinoxes. This is a well known property of visual auroral displays and is not just a result of long days of summer and cold cloudy weather of winter, though these facts certainly tend to emphasize the equinoctial peak periods.

When dealing with individual events, however, general tendencies often disappear and if we were to plot the monthly frequencies for the next five years we might not get the same type of graph. Then, of course, there is the problem of what to call a display. Sometimes a very brief appearance of an auroral array may take place. Should this be given the same weight as a big display which lasts all night, or perhaps for more than one day, and should a display which lasts several days be counted as one display or more?

METEOR GROUP: Coastal fog on the night of November 5/6 made it impossible for the Meteor Group to view the Taurids Meteor Shower.

MEMBERSHIP FEE: Your membership fee for The Royal Astronomical Society of Canada, Halifax Centre, is now due for the coming year. The regular annual membership fee is \$5.00. A student who is certified as being in full-time attendance at a recognized educational institution can become a student member for \$3.00. Life membership in the Society is \$75.00.

The 1962 Observer's Handbooks are now available. Non members can purchase these for \$1.00. They are distributed free to members.

Cheques or money orders in payment of membership fees should be made payable to "The Royal Astronomical Society of Canada, Halifax Centre" and addressed to:

Dr. R. L. Aikens, Secretary-Treasurer,
R.A.S.C. Halifax Centre,
42 Bellevue Avenue,
HALIFAX, N. S.

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STANDING COMMITTEE ON OBSERVATIONAL ACTIVITIES: Accompanying the October issue of GALAXY was Bulletin No. 1 of the Standing Committee on Observational Activities. The Bulletin listed five fields of activities.

for which National Co-ordinators had been appointed. Accompanying this issue of GALAXY is BULLETIN NO. 1 from the Planetary Section which is headed by Mr Geoffrey Gaharty, Jr., 636 Sydenham Avenue, Montreal 6, Quebec and BULLETIN NO. 1 from the Lunar Section which is headed by Mr R. Thompson, P.O. Box 79, Maple, Ontario.

The scope of both sections has been clearly outlined in their respective BULLETINS and I would suggest that now is the time to begin your observing programme providing you wish to take part in this national effort.

STAR MAPS: Did you see the star maps in the Halifax MAIL-STAR on November 15, 1961? The Halifax Centre of The Royal Astronomical Society of Canada has now completed arrangements with the paper to publish monthly star maps and it is hoped that you will not only make use of these maps but will make it known to your friends who might be interested.

NOVEMBER MEETING REPORT: Dr Peter M. Millman spoke at the November meeting which was held on the evening of November 20, 1961, in the Planetarium Room of the Nova Scotia Museum of Science, Spring Garden Road, Halifax, Nova Scotia. Approximately 25 members and friends turned out to hear the speaker who talked on THE ABC OF SPACE TRAVEL. The technique, problems and future of space travel were explored. Father M. W. Burke-Gaffney, Honorary President, introduced the speaker who is the National President of The Royal Astronomical Society of Canada.

JANUARY MEETING NOTICE: The next meeting of the Halifax Centre of The Royal Astronomical Society of Canada will be held at 8:00 pm, on January 31, 1962, in the Planetarium Room of the Nova Scotia Museum of Science, Spring Garden Road, Halifax, Nova Scotia.

Wishing you all a Merry Christmas and a Happy New Year.

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