

**FROM**

HALIFAX CENTRE R.A.S.C.  
1747 SUMMER ST.  
HALIFAX, N.S.

**TO**

ROYAL ASTRONOMICAL SOCIETY,  
252 COLLEGE ST.,  
TORONTO, ONTARIO.

*Jan 74*



# NOVA NOTES

THE PROPERTY OF:  
THE ROYAL ASTRONOMICAL  
SOCIETY OF CANADA  
252 COLLEGE ST.  
TORONTO 2B



44° 38' N  
63° 35' W

HALIFAX  
CENTRE



FORM 2

MONA



10

MONA

NOTICE of MEETING



Date: January 18<sup>th</sup>, 1974

Place: The Theatre  
Nova Scotia Museum  
1747 Summer St.  
Halifax, N.S.

Time: 8:00 P.M. Sharp!

Topic: "Amateur Radio Astronomy"

Speaker: Fr. W. Long  
Dept. of Physics  
St. Mary's University  
Halifax, N.S.

All members and guests are most welcome!

Refreshments will be served!!

Nova Notes are printed, thanks to the goodwill of the  
Nova Scotia Museum.

HALIFAX CENTRE

R. A. S. C.



Editor's Page

You're heading back into your slump again. This month I was able to sort out things before press time! That's bad. How about some Kohoutek reports?! Did anyone time the partial solar eclipse on Christmas Eve? Have you seen the Jupiter-Venus configuration? There are thousands of things going on up there, besides UFO's, that your editor should be hearing about, so that I might pass them along to the rest of you. Please TYPE your article on standard typewriting paper and bring, mail, throw, or send it along with a friend to:

The Editor, "Nova Notes"  
Halifax Centre, RASC  
c/o The Nova Scotia Museum  
1747 Summer St.  
Halifax, N.S.

...thank you!

On the Notice board...

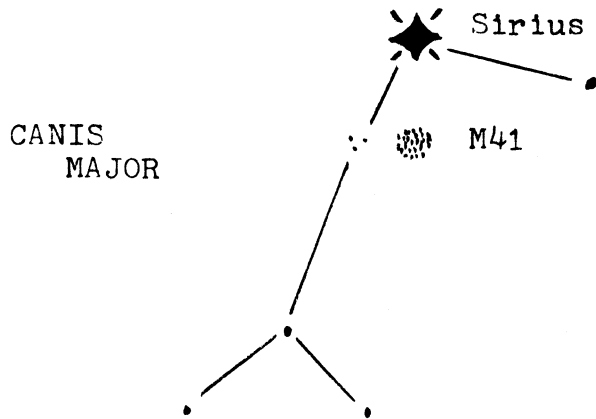
There is some talk of forming some sort of observing team. If you have a telescope and a nice dark piece of land someplace handy Halifax-Dartmouth then you're the one we want (watch out!!!) Hey Ottawa, how is the "Observer's Group" making out? Perhaps some member from another centre has a clever idea you would like to pass along. We would appreciate hearing from you!

If any of you are interested in this idea, bring it up at the informal discussion after the meeting or if you are as excited as some people are, so I'm told, you will probably want to bring it up before the meeting gets started! Remember; this project will be what you make it!

Peter Edwards  
The Editor



Lastly, Sirius is a binary system. The period of its 9<sup>th</sup> mag. companion is about 50 years. Maximum separation of 11.3" occurs around, about now! Hint; the separation, early this month, is equivalent to the apparent diameter of Mars.



P.E.

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Letters to the Editor

I recieved a letter this month from Randall Brooks. It is the likes of Mr. Brooks who keeps our Centre on its feet and I would like to thank him for his letter, which follows.

Peter Edwards

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To the editor:

In this letter I have a couple of topics which may be of interest to the RASC members. First, as you are aware, the Halifax Centre recently formed a junior group for students aged 10-16. It fell on me, as originator of the scheme to become co-ordinator; and thus, on the 7th. of Dec. the first meeting of the Junior Astronomy Club was held in the Nova Scotia Museum. Advertising for the opening meeting was achieved mainly by contacting approximately 100 science department heads in the area.

The turnout of 105, needless to say, exceeded our expectations several times over and resulted in many having to sit in the isles. The program was on the topic Comets (as many astronomical meetings have been lately) and resulted in many questions being asked. Weather permitting, the Jan. meeting will be an observing session thus allowing members an opportunity to view Kohoutek telescopically.

Diane Brooks and John MacNeil are assisting me at present; however, if we have regular attendance over 25 we will require further assistance as many of our programs will be projects and observing--both requiring a low ratio between members and directors. If anyone is interested in helping out or has suggestions for suitable projects or topics for lectures, we would be pleased to hear from you. Thus far I have collected 15 projects suitable for various abilities in the age group concerned.

Secondly, during the summer I came across a paper in the American Journal of Physics (V. 41, 783-808, June, 1973) by R. Berendren and D. DeVorkin. This 25 page Resource Letter on Astronomy is a must for anyone looking for such things as slides, films, books (all levels and subjects), demonstration equipment, manufacturers, planetariums etc. I have never found such a complete listing, so if you are looking for something--or nothing in particular--refer to this article.

- R. C. Brooks



## HAVE YOU READ ?

Did you ever wonder how Tycho Brahe came to the conclusion that the earth was in the centre of the solar system and this was many years after Copernicus' book "De Revolutionibus Orbium Coelestium" had been published ? Tycho was a superb astronomer in every sense - he had instruments that Copernicus did not have. He observed many events that Cop. apparently did not. He worked very hard and read widely. If you look up the December SCIENTIFIC AMERICAN, you can see a superb article. There is even notes made by Tycho in a copy of Copernicus' masterpiece. This puts much of the med\_aeval concept of the universe into some perspective and in this light Tycho stands out as a master.

If you have gone to the trouble of finding that issue of SCIENTIFIC AMERICAN, don't stop there. There is a beautiful article on "Peculiar" Galaxies. By running models of close galaxies in reasonably close proximity and computing the effect of tides, most peculiar effect emerge. Long streamers and bridges emerge. Just as there is a high tide on the other side of the earth from the sun and moon, so on the other side of a galaxie from a neighbour galaxie there is a "high" tide and in the time span of galaxies this tide can stretch out a long way ! So--would someone please look for a "streamer" stretching out from the Greater Magellanic Cloud.???

NATURE November 9 1973 How would you like to have watched the Great Eclipse of last June 30th for 74 minutes of totality, 7 minutes of second contact and 12 minutes of third contact? Impossible you say? People and equipment did just that by flying at Mach 2 in a Concorde.

SCIENCE Novembe 16 This is a detailed report of Lunar samples from Appolo 17. Now that the glamour has worn off a bit, the slogging work of analysis goes on. There are some interesting notes on rocks craters and various kinds of soils.

Murray Cunningham

The following edited report is taken from Cassiopeia, the newsletter of the Canadian Astronomical Society. The original article was prepared by René Racine of the David Dunlap Observatory, U. of Toronto.

The main optical and mechanical characteristics of what has become the CFHT project was begun as early as 1967 by French astronomers. Canadian and Hawaiian participation began only in 1972; hence, their major contributions to the design of the facility will be largely limited to instrumentation as the overall design has been determined and significant changes would be difficult to make. Canadian representation on the Scientific Advisory Committee are: David Crampton (DAO, Victoria), René Racine (U. of Toronto), Graham Walker (U. of British Columbia), and W. Wehlau (U. of Western Ontario). Dr. Graham Odgers (DAO) will be the Associate Project Officer. He was also Chief Project Officer of the aborted Queen Elizabeth II Telescope which was destined for Mount Kobau, B.C.

The CFHT, which will have approximately 19 staff members, will be located on Mouna Kea, Hawaii. This site on a cinder cone at a height of 4189m (13,700 ft.) is superbe for far infrared (to 350 microns, and at times to 1mm) and ultra-violet observations (to 2950 Å) because of very low water vapor content and high altitude. At such an altitude one is above approximately 60% of the atmosphere and the observers' rooms will have an oxygen enriched atmosphere to combat fatigue which results after extended stays in the rarified atmosphere. A variety of rooms--four photographic darkrooms, computer facilities, control room, kitchen, and labs, etc.--will be located in a four level circular (29m diameter) building surrounding the circular (16m diameter) pier. Two coude rooms will be on the second and third levels inside the pier. The top of the conventional 33m diameter dome will be about 55m above ground level. The double-skinned dome will have fans to provide rapid forced ventilation to avoid dome-induced seeing deterioration. In addition, the dome floor will be refrigerated by cooling pipes embedded in the concrete. This will insulate the dome from the heated rooms below and will create a stable thermal inversion in the observing area.

The telescope (a model of which may be seen in Sky & Telescope pg. 306, Nov. 1973) will have a Palomar type horseshoe at its North pier. Motions in R.A. will be driven through an 8m diameter main gear incorporated in the horseshoe. The dec gear will be 1.6m in diameter. The telescope is expected to reach to 9° above the horizon which, at the latitude of Mauna Kea means the southern limit will be -61° dec. Setting will be computer controlled with an accuracy of approximately 10". Differential setting for study of very faint objects will have an accuracy of 0.1" over an area of 1°. The tube will be of the open 'A' frame type known as the Serrurier type. The upper 'Serruriers' will support the secondary mounting and the lower will support the mirror cell with a massive square section at the declination axis. There will be several interchangeable upper ends providing for prime focus cage, two coudé/secondaries, a classical and wide angle (both f/8) cassegrain secondaries and an infrared (f/45) secondary. No cassegrain cage is planned as lower end clearance will only be 1.3m - 1.6m.

The primary mirror is of low expansion Cer-Vit material and has a clear aperture of 3.58m (141 in.). It was delivered to the optical shop at the Dominion Astrophysical Observatory, Victoria in mid-Sept. where it will be ground to parabolic curvature. It will have a focal ratio of f/3.8 which yields a plate scale of 15"/mm on photographs at the prime focus. There will be no correctors for the prime or classical cass. focus. However, the wide angle cass. will employ a two element corrector and will come to focus 35cm behind the telescope base plate. The coudé optics, similar to those of the 48" at DAO, will be f/200 being converted to f/20 before entering spectroscopy slit or image-slicer. The coudé path has 7 reflections and 21 optical elements before the slit.

As I stated earlier, instrumentation has not been designed but major components will include a Data Acquisition System; Guiding and TV Systems; Coude' spectrograph; prime focus and cass. focus spectrographs, correctors, and cameras; photometers and polarimeters and many more specialized instruments.

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\*\* I noted the mirror blank on its way to Victoria late last summer. It was on a flat-car in the Rockingham Rail Yard. etc.

