

NATIONAL NEWSLETTER

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Please submit all material and send all communications to the address below:

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Memberships 1974

All members are reminded that a new fee schedule was adopted at the Annual Meeting in Ottawa on May 26, 1973. Student Members under 18 may join, or renew their membership for \$7.50; for all other members the annual fee was set at \$12.50. Members are reminded that all fees are due on October 1.

Treasurers of Centres should take note that all membership fees received up to December 31 must reach the National Office by January 15. It will not be possible to retain membership and receive the publications of the Society unless such fees have been received by January 15.

CECIL E. HODGSON
Secretary

Reserve Copies of the Journal

Reserve copies of the journal of the Royal Astronomical Society of Canada are available at a cost of \$2.50 per issue for the years 1907 to 1970 inclusive, and at \$3.00 per issue for 1971 and 1972. Some issues may not be available, depending on the demand.

Send requests to the Society at —

252 College Street

Calgary Centre Eclipse Expedition

The Calgary Centre has published a Booklet of the accounts of the 1972 Eclipse at Tuktoyaktuk as observed by members of the R.A.S.C. Calgary Centre's Eclipse expedition. The booklet is abundantly illustrated with photographs, some of them in colour, taken during the expedition.

The booklet is available in limited quantities. The price is \$1.25 postage paid from

R.A.S.C. Calgary Centre
c/o Calgary Centennial Planetarium
P.O. Box 2100
Calgary, Alberta

Orbital Data for Comet Kohoutek (1973f)

The accompanying orbital parameters have been computed for a parabolic orbit from elements supplied by B. Marsden of the Smithsonian Astrophysical Observatory. Marsden gives Ω (1950.0) = 257.926°, ω (1950.0) = 37.803° and i (1950.0) = 14.333°, with perihelion passage on Dec. 28.65 1 ET, 1973 at a distance of .14057 A.U. from the Sun.

In the table, the coordinates have been processed to 1974.0. *RHO* is the geocentric comet distance, *R* the heliocentric comet distance and *PHI* the angle between the comet and the Sun in the sky. *VEL* is the comet's orbital velocity relative to the Sun and *VREL* its velocity relative to Earth, taking into account the Earth's orbital motion.

Present indications are that Kohoutek may be among the most impressive comets of the century. Estimates are that it will achieve naked eye brilliance for a period of about 4 months around perihelion. Unfortunately, for northern observers it will be a daytime object at perihelion time and it appears that the most favourable observing period will be the first two weeks in January.

Lorne Avery
Ottawa

Date	R.A.			Dec.			RHO AU.	R A.U.	PHI Deg	VEL KM/S	VREL KM/S	
	H	M	S	Deg	M	S						
Nov	1.00	11	34	32	-7	59	5	2.098	1.514	42.0	34.2	-44.38
Nov	5.00	11	45	36	-9	13	32	1.995	1.438	43.0	35.1	-44.35
Nov	9.00	11	57	43	-10	33	45	1.892	1.360	43.6	36.1	-44.08
Nov	13.00	12	11	3	-12	0	10	1.791	1.280	44.0	37.2	-43.53
Nov	17.00	12	25	55	-13	33	13	1.691	1.197	44.0	38.5	-42.62
Nov	21.00	12	42	37	-15	13	4	1.594	1.113	43.6	39.9	-41.28
Nov	25.00	13	1	37	-16	59	34	1.501	1.025	42.7	41.6	-39.38
Nov	28.00	13	17	39	-18	23	2	1.435	0.957	41.6	43.0	-37.51
Dec	1.00	13	35	34	-19	48	38	1.372	0.887	40.2	44.7	-35.15
Dec	3.00	13	48	37	-20	45	58	1.333	0.839	38.9	45.9	-33.28
Dec	5.00	14	2	44	-21	42	47	1.296	0.790	37.5	47.4	-31.14
Dec	7.00	14	18	0	-22	38	11	1.261	0.740	35.8	48.9	-28.67
Dec	9.00	14	34	26	-23	30	48	1.230	0.688	33.9	50.7	-25.89
Dec	11.00	14	52	13	-24	19	16	1.203	0.635	31.8	52.8	-22.73
Dec	13.00	15	11	22	-25	1	44	1.179	0.580	29.4	55.3	-19.20
Dec	15.00	15	31	55	-25	36	2	1.160	0.524	26.7	58.2	-15.31
Dec	17.00	15	53	57	-25	59	50	1.146	0.465	23.7	61.7	-11.07
Dec	18.00	16	5	33	-26	6	56	1.141	0.435	22.1	63.8	-8.86
Dec	19.00	16	17	30	-26	10	24	1.137	0.404	20.4	66.2	-6.62
Dec	20.00	16	29	52	-26	9	48	1.134	0.373	18.6	68.9	-4.39
Dec	21.00	16	42	39	-26	4	43	1.133	0.342	16.7	72.0	-2.24
Dec	22.00	16	55	51	-25	54	46	1.133	0.309	14.8	75.7	-0.32
Dec	23.00	17	9	33	-25	39	21	1.134	0.277	12.7	80.0	1.18
Dec	24.00	17	23	47	-25	17	55	1.135	0.245	10.4	85.1	1.87
Dec	25.00	17	38	42	-24	49	34	1.137	0.213	8.0	91.2	1.03
Dec	26.00	17	54	19	-24	13	50	1.138	0.184	5.4	98.1	-2.51
Dec	27.00	18	10	43	-23	30	5	1.135	0.159	2.6	105.4	-10.49
Dec	28.00	18	27	46	-22	38	48	1.127	0.144	0.7	111.0	-23.86
Dec	29.00	18	44	51	-21	43	0	1.109	0.141	3.5	111.9	-39.28
Dec	30.00	19	1	11	-20	44	0	1.084	0.153	6.4	107.5	-50.20
Dec	31.00	19	16	17	-19	54	0	1.054	0.176	9.1	100.4	-54.31
Jan	1.00	19	30	19	-19	3	49	1.024	0.204	11.4	93.2	-53.85
Jan	2.00	19	43	29	-18	15	50	0.994	0.235	13.6	86.8	-51.18
Jan	3.00	19	56	8	-17	28	45	0.966	0.267	15.7	81.4	-47.60
Jan	4.00	20	8	26	-16	41	42	0.941	0.300	17.7	76.9	-43.69
Jan	5.00	20	20	31	-15	54	1	0.917	0.332	19.7	73.1	-39.70
Jan	6.00	20	32	30	-15	5	16	0.896	0.364	21.7	69.8	-35.74
Jan	8.00	20	56	13	-13	23	49	0.860	0.426	25.6	64.5	-28.00
Jan	10.00	21	19	46	-11	36	38	0.834	0.486	29.6	60.4	-20.56
Jan	12.00	21	43	8	-9	43	57	0.815	0.544	33.6	57.1	-13.39
Jan	14.00	22	6	11	-7	47	19	0.805	0.599	37.5	54.4	-6.50
Jan	16.00	22	28	46	-5	48	40	0.802	0.654	41.4	52.1	0.05
Jan	18.00	22	50	34	-3	50	57	0.807	0.706	45.1	50.1	6.17
Jan	20.00	23	11	32	-1	55	57	0.818	0.757	48.6	48.4	11.82
Jan	23.00	23	40	57	0	46	27	0.847	0.832	53.4	46.2	19.30
Jan	26.00	0	7	47	3	13	19	0.887	0.903	57.4	44.3	25.56
Jan	29.00	0	32	0	5	22	41	0.936	0.973	60.8	42.7	30.67
Feb	1.00	0	53	44	7	15	11	0.993	1.040	63.4	41.3	34.79
Feb	4.00	1	13	10	8	51	52	1.057	1.106	65.5	40.0	38.07
Feb	7.00	1	30	36	10	14	49	1.125	1.170	66.9	38.9	40.67
Feb	10.00	1	46	17	11	26	11	1.198	1.233	67.9	37.9	42.72
Feb	14.00	2	4	54	12	46	25	1.299	1.314	68.6	36.7	44.80
Feb	18.00	2	21	20	13	53	3	1.405	1.393	68.7	35.7	46.32
Feb	22.00	2	36	0	14	48	57	1.513	1.470	68.3	34.7	47.40
Feb	26.00	2	49	13	15	36	28	1.624	1.546	67.6	33.9	48.15

Have Telescope Will Travel

The rather plagiarized motto which appears as the title of this article is all part of an Opportunities For Youth project undertaken by three members of the London Centre. The project named "ZUBENELGENUBI" (after Alpha Librae a star of average visual appearance in the summer sky) is a community directed effort aimed at providing an opportunity for interested persons in the London area to learn more about astronomy and to get some practical observing experience.

Project members, G. Chris Essex, Bill Smythe, and Eric Clinton have been working with the goal of not only teaching the general public, but indirectly benefitting amateur astronomy in the London Centre.

The project is funded by the government for this summer, and so far is a complete success. The procedure, conceived originally by Chris, is a three stage one. We commenced in May with the first stage which involved visiting Elementary Schools in the city with a slide presentation of approximately one hour on Modern Astronomy, familiarizing the students with the basic concepts of time, distance, and size as they relate to the universe. As the summer began, star nights and demonstrations constituted the second stage of the project. Some of the interest in these activities has been generated by the school visits. The third stage of the project coincides with these observing sessions. It involves the preparation and publication of a program learning booklet on astronomy, covering such basics as the parsec, Kepler's Third Law, etc. The booklet will be designed in such a way that the reader will develop a fair knowledge of what astronomy is all about.

For further information about the project, write to the address below. Should any of the Centre's libraries wish a copy of the booklet, write soon so that we can guarantee you a copy.

BILL SMYTHE
ERIC CLINTON
G. CHRIS ESSEX
Project Zubenelgenubi
c/o Eric Clinton
8 Trillium Crescent
London, Ontario. N5Y 4T4

Notes from Newfoundland

A helping hand to get a delegate to the General Assembly seems but a natural thing to expect from Headquarters, but when another centre pitches in and helps, it warms our hearts.

Thank you again, Toronto, Centre, for standing the one-way cost of a delegate from Newfoundland. We could not otherwise have sent one.

It was inspiring to head the talk given by Dr. Frank Drake at the closing banquet. It was less than inspiring, however, to have to bring home the news of a considerable increase in fees.

Our centre almost folded up over the last increase. Indeed, we gave the most serious consideration to breaking with R.A.S.C. and putting ourselves as a group under the Natural History Society, which enjoys a large membership. We decided eventually to subsidize from our funds, which we did until we reached the stage where our funds needed subsidization! Not until then did we increase our fees in line with mainland centres.

Our members are mostly students, and while members of larger, therefore wealthier centres may feel their students quite well able to pay a substantial fee, this is not our situation. Our students are no gadabouts, but extremely aware and sensible people, trying to get their education without imposing undue financial stress on their parents.

Our regular sessions will not resume until the fall, when no doubt whatever, the matter of increased fees for students will receive proper, if dismayed attention.

12th Canada-Wide Science Fair

The twelfth Canada-Wide Science Fair was held at Lakehead University, May 14-19. It was noticeable that there are a growing number of astronomical and mathematical exhibits, and the judges experienced a little difficulty in comparing such diverse achievements as the construction of a 6" reflecting telescope, computer simulations of the three-body problem, and the study of regular objects in a finite number of dimensions.

Jamie Canapini of Sudbury showed descriptive models and charts of the physical characteristics of the planets, while 13 year old Peter Sergeant of Ajax exhibited his 6" reflector, with mirror ground at the McLaughlin Planetarium. A quotation from his exhibit summary reads "my eyes could not believe the beauty the universe contains".

Lunar libration was the subject of study by Marcel Milot of Rigaud, P.Q. who used the displacement of the crater Pallas from the optical centre of the Moon as a measure of libration angle. Mickey Mah of Peace River, Alberta studied the Sun with the aid of his homemade 4¼" Newtonian reflector. His interest in the motions of sunspots led to an investigation of the relationship between the nature of sunspots, radio interference and the formation of aurora.

The Royal Astronomical Society of Canada award was made to Norbert Schlenker of Calgary for his computer simulation of the gravitational effects of Jupiter on cometary motion. He also attempted to simulate asteroid capture to explain the existence of Jupiter's four retrograde satellites. Ejection of a comet from the solar system after close interaction with Jupiter (the sling shot effect, proposed for a Grand Tour space mission) was demonstrated, as was capture of a comet from a parabolic orbit.

A computer was also used by Brian Brookwell and Craig Dunbar of Calgary, this time applied to various astrophysical applications. Stellar energy production, the possibility of Earth-type planets in orbit around double stars, and various theoretical formulae were all programmed and investigated.

Gary Colwell of Mississauga with an exhibit entitled "The stars: more than a pin point of light" used data from the *OBSERVER'S HANDBOOK* to investigate relationships between absolute magnitude, luminosity and spectral classification. His Hertzsprung-Russell diagrams also illustrated stellar sizes and evolutionary tracks.

The ultimate in exhibits was the "Model of the Universe" by Ed Impanis and Brian Defton of Thorndale, who presented a relativistic universe model and some of their speculative views on the possibility of determining our position in the universe.

It was a pleasure to meet and talk with the exhibitors. I wish them well in their future activities, and hope that they maintain their astronomical interests.

J. S. GRIFFITH

The Passing of Two Devoted Members

Douglas R. P. (Darby) Coats passed away at Calgary, Alberta, on July 7, 1973 at the age of 81 years. Darby Coats had been a member of the Society for over half a century, and during this period he made outstanding contributions both to the R.A.S.C. and to Canadian society. He will be remembered by many for his important contributions to the early development of radio communication in Canada and for his education broadcasts in astronomy in the 1930's. The R.A.S.C. will remember him especially for his many public lectures in astronomy and his skill and enthusiasm as a telescope maker.

Samuel Litchinsky of Calgary, Alberta, passed away on August 1, 1973 at the age of 66 years. Mr. Litchinsky was one of the founders and a charter member of the Calgary Centre. His devotion to the development of this Centre is marked by many milestones, which include his term as president of the Centre in 1962 and several key contributions which he made to the Centre on a continuing basis over the years. We extend our sympathy to Mrs. Marie Litchinsky whom we all know as former executive-secretary of the Society.

In extending our sympathy to the families of these two members, we convey to them our own sense of loss and some feeling for the indelible impression on the Society left by these two devoted members.