REGULUS

SEPTEMBER-OCTOBER 1990

NEWSLETTER OF THE KINGSTON CENTRE
OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

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ASTRONOMY DAY COORDINATORS.....	Stan Manna	(000) 000-0000
	Denise-Sabatini	(000) 000-0000
	Peggy Torney	(000) 000-0000

UPCOMING MEETINGS

Regular meetings of the **Kingston Centre** are held on the **second Friday** of each month at **8 p.m.**, in **Room D-214, MacIntosh-Corry Hall, Queen's University.** Non-members are welcome. Executive meetings are one-half hour before regular meetings.

September 14	MEMBERS' NIGHT -- Please bring your slides, etc. for this meeting.
October 12	Program to be announced.
November 9	Program to be announced.
December 14	ANNUAL MEETING & ELECTIONS. Program to be announced.

IN THIS ISSUE

REPORT OF THE 1990 ANNUAL MEETING

The 1990 Annual Meeting of Royal Astronomical Society of Canada took place on Monday, July 2 at 2:00 p.m. in the Tory Hall Amphitheatre at Carleton University in Ottawa.

At this historic one-hundredth meeting of our organization, the National President, Dr. Lloyd Higgs, presided, and twenty-one of the twenty-two Centres of the Society were represented, a more complete representation than ever before of all parts of the country.

The agenda included reports from the officers and from the standing and the special committees of the Society, and several important decisions were adopted.

Dr. Higgs reported that this historic centennial year had been a very good one for the Society; it had been marked by the naming of an asteroid in honour of the Society's centenary: Minor Planet 4113 will be henceforth known as RASCANA. Three comets have also been discovered by members over the past year, two by Kingston Centre member, David Levy (1989r and 1990c), and one by Doug George of the Ottawa Centre (1989e1). The activities in individual Centres across the country continue to grow and be very impressive, including special events like Astronomy Day.

Mr. Miller, the treasurer, presented the auditor's annual report which was approved by the assembly. The members of the Publications Committee gave reports on the progress of the current issues of the publications. The assembly approved a vote of thanks to Mr. Ian MacGregor who was completing his five-year term as National Newsletter Editor. A motion to investigate second-class postage for the mailing of the **Observer's Handbook** was also approved.

After considerable debate, the assembly strongly approved the motion presented by the Finance Committee to increase the membership fees, a move that was seen as quite necessary in order to maintain the current level of services, simply because of inflation since the time of the last fee increase. Beginning with the 1991 membership year, the fees approved were as follows: regular membership - $32.00, youth membership $23.00, and life membership - $640.00. Strong approval was also given to a motion to have the Finance Committee annually assess the membership fee structure.

The notion to continue with the Society's auditing firm, C.J. Tinkham and Associates of Toronto was endorsed.

The society welcomed M. Damien Lemay as its new National President and Dr. Douglas Hube as the new Second Vice-President. M. Lemay spoke of the honour he had in serving as President and asked for invitations to visit Centres of the Society.

Several motions were passed as General Business. One was that all life members of the Society be provided with Life Membership Certificates. Another was that future recipients of the Plaskett Medal be granted 50% reimbursement for travel grants and the cost of the registration fee to attend the General Assembly at which they would present a paper about their research. There was a decision to form a committee to examine the long-range goals of the Society, as had been done in 1977 when a report on the long-term health of the Society had been issued. There was also a motion of thanks to Dr. Tatum for the work he (at considerable personal expense) and others at the University of Victoria are doing in the astrometry of unnamed asteroids.

A great deal of important business was dealt with at the Annual Meeting, thanks to the dedication and competence of many officers and committee members who throughout the year work hard at the ongoing business of running the Society.

Complete details regarding the items discussed at the 1990 Annual Meetings will be published in the October issue of the **Journal**.

Leo Enright

REMINDER

SEPTEMBER 14 IS **MEMBERS' NIGHT**. PLEASE BRING YOUR SLIDES, PHOTOS, OBSERVING RECORDS, OR OTHER ITEMS OF INTEREST. WE WANT TO HEAR FROM YOU.

REPORT OF THE NATIONAL COUNCIL MEETINGS AT THE 1990 GENERAL ASSEMBLY

The National Council of our Society held two meetings at the time of our 1990 General Assembly in Ottawa. The first was on Friday, June 29 at 1:00 p.m. in Room 213 of the Commons Building at Carleton University and the second was in the Tory Hall Amphitheatre on Monday, July 2 at 4:00 pan. following the Annual Meeting of the Society.

At the first meeting the National President, Dr. Lloyd Higgs, presided, and twenty of the twenty-two Centres of the Society were represented by their National Council Representatives. The agenda included reports from the officers and the standing and special committees of the Society, and several important decisions were adopted.

Council approved a motion to adopt a new set of guidelines to be followed when there is an application from a Centre for a Special Projects Grant. In addition, a committee made up of the National Treasurer and two others chosen by the Treasurer is to be formed to consider individual applications for Special Projects Grants. The Treasurer's budget statement was approved by Council, a statement calling for a proposed membership fee increase - one that was later approved at the Annual Meeting of the Society.

Mr. Ian McGregor, the current editor of the National Newsletter, announced that at the end of the current volume he would be giving up that position after serving for five years; his replacement would be Mr. Pat Kelly of the Halifax Centre. Dr. Bishop, the Observer's Handbook editor, reported on plans for the 1991 issue, and his motion for a price increase to $13.50 per copy for non-members was approved by Council. Dr. Tatum, the editor of the Journal, reported on the preparation of the issues of the current year, and his motion for a price increase to $12.00 per copy and $72.00 per annual subscription for non-members was also approved.

The chairman of the Constitution Committee reported that the second draft of the model set of Centre By-laws would be presesented at the Council Meeting in September. The chairman of the Society-sponsored 1991 Solar Eclipse Expedition reported that he had made his second tour-day planning trip to Baja California and plans for the trip were proceeding apace.

Information was received concerning the 1991 General Assembly already approved for the weekend of May 17 to 20 in Vancouver, and looking further into the future, Council approved a motion to hold the 1992 General Assembly in Calgary at the time of the Canada Day Holiday.

Council also approved a motion to seek the professional advice of an archivist regarding the storage of the archival records of the Society.

In the second of the Council Meetings, chaired by the new National President, M. Damien Lemay, the restructuring of all of the Society's committees for the coming year took place. The following are the Standing Committees whose members were elected for 1990-1991: Awards, Constitution, Executive, Finance, Historical, Library, Nominating, Property, and Publications.

Six Special Committees were reconstituted for the coming year and two new ones were formed. The committees whose membership was renewed or partially replaced were as follows: the Centennial Committee, the Computer Use Committee, the Membership Survey Committee, the Mini-Handbook Committee, the Society's Seal Committee, and the 1991 Solar Eclipse Committee. The two new ones are the Speaker Exchange Committee, which will examine new ideas for the exchange of speakers between and among Centres of the Society, and the Long Range Planning Committee, which will consider what should be some of the long-term goals of the Society and how they might be met in the next decade. The names of the members of these committees may be ascertained from our Centre's National Council Representative.

Complete details regarding all the items discussed at these two meetings may be found in the minutes of these meeting which will be distributed to our Centre President and our National Council Representative.

Leo Enright
(Kingston Centre, National Council Representative)

DAVID'S SIXTH COMET: SHOWPIECE OF THE SUMMER SKY

The king of comets has done it again! Very early on the morning of May 20, our Kingston centre member, David Levy, discovered his sixth comet from his backyard observatory in Tucson, Arizona.

While sweeping the eastern sky using his 40cm. telescope he found a faint comet-like object in the constellation Pegasus near the Andromeda border. He reported his find and had to leave immediately for an astronomical conference without knowing if it would be named solely for him or if he would have to share the honours. One indication of David's mounting skill as a faint comet observer is the certainty he had about the object, in spite of its faintness. He said, "I looked at the standard star atlases to see if there were in the area any galaxies with tails on them!"

With his sixth discovery (and second in less than a year, since the last was only last August), David is now the most prolific visual comet discoverer among living North Americans, and certainly one of the world's leaders.

Every one of his discoveries seems to have a story attached to it. This one was no exception. Just the evening before this discovery, David and a co-astronomer at the University of Arizona had been joking about the disappointments associated with Comet Austin, and his friend said that David should go home and discover a better one. That was just what he did!

Comet Levy (1990c) has generally been living up to expectations - which make some experts feel that it will be a good naked-eye object in late August when it is quite close to the earth. Fingers are crossed.

Because Comet Levy was coming toward the earth in an almost direct line for about the first month after discovery, there was very little apparent motion in the sky. (In fact, there was a preliminary announcement that it had passed perihelion and was headed out of the solar system!) It seemed to linger almost completely unmoving near the star Alpheratz or Alpha Andromedae.

By the time you read this, the comet will have been observed by many of our members, but the following information will help you either to calculate an orbit on your own (if you are mathematically inclined) or observe it from the positions given.

Comet Levy (1990c)
Orbital Elements: T = 1990, Oct 24.359 ET
Peri. = 242.579 degrees
Node = 138.570 degrees (1950)
q = 0.93849 AU
Incl. = 131.623 degrees.

Positions (Epoch 1950.0)

Date	R.A.	Dec.	Mag.
July 18	23 55.22	+29 32.7	7.4
23	23 47.71	+29 12.5	
28	23 36.96	+28 33.1	6.5
Aug. 02	23 21.58	+27 22.0	
07	22 59.97	+25 17.4	5.5
12	22 29.10	+21 39.1	
17	21 45.81	+15 20.9	4.3
22	20 48.37	+05 15.8	
27	19 41.01	-07 37.8	3.5
Sept. 1	18 35.05	-19 16.8	
6	17 40.33	-27 07.9	3.7

Once again, to David, congratulations! An incredible achievement!

RELECTIONS ON STARFEST '90

By Bill Broderick

The ninth annual observing convention of the **North York Astronomical Association**, STARFEST, held August 17, 18, 19, near Mount Forest, Ontario, was a "first" for me. I have attended only one other such convention, STELLAFANE, back in 1978, so was eager to see and hear everything.

Unfortunately, the weather lived up to predictions, so the only observing done was on Friday night (August 17), and clouds interfered even with that. On Saturday morning, we were supposed to observe an occultation of Jupiter by the moon, but of course this was rained out.

It was interesting, however, to walk around between talks and look at the wide variety of telescopes, small and large, and also the several **portable** observatories, two of them on wheels. It's really fantastic what some of us have in the way of equipment!

The talks were all interesting and informative. We heard about astrophotography from **Mike DeVillaer** and **Andreas Gada**, and Schmidt Camera astrophotography from **Mike Watson**. Three successful Canadian comet hunters, **Rolf Meier**, **Doug George**, and of course David Levy, gave us a panel discussion on comet hunting. **Terry Dickenson** gave a very informative talk on telescope performance. **Peter Ceravolo**, associate editor of **Telescope Making Magazine**, conducted an informal optical quality survey, and for those brave souls requesting, conducted actual tests of optical quality on their instruments.

(Continued on page 7.)

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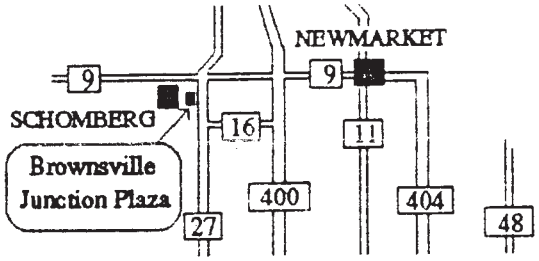

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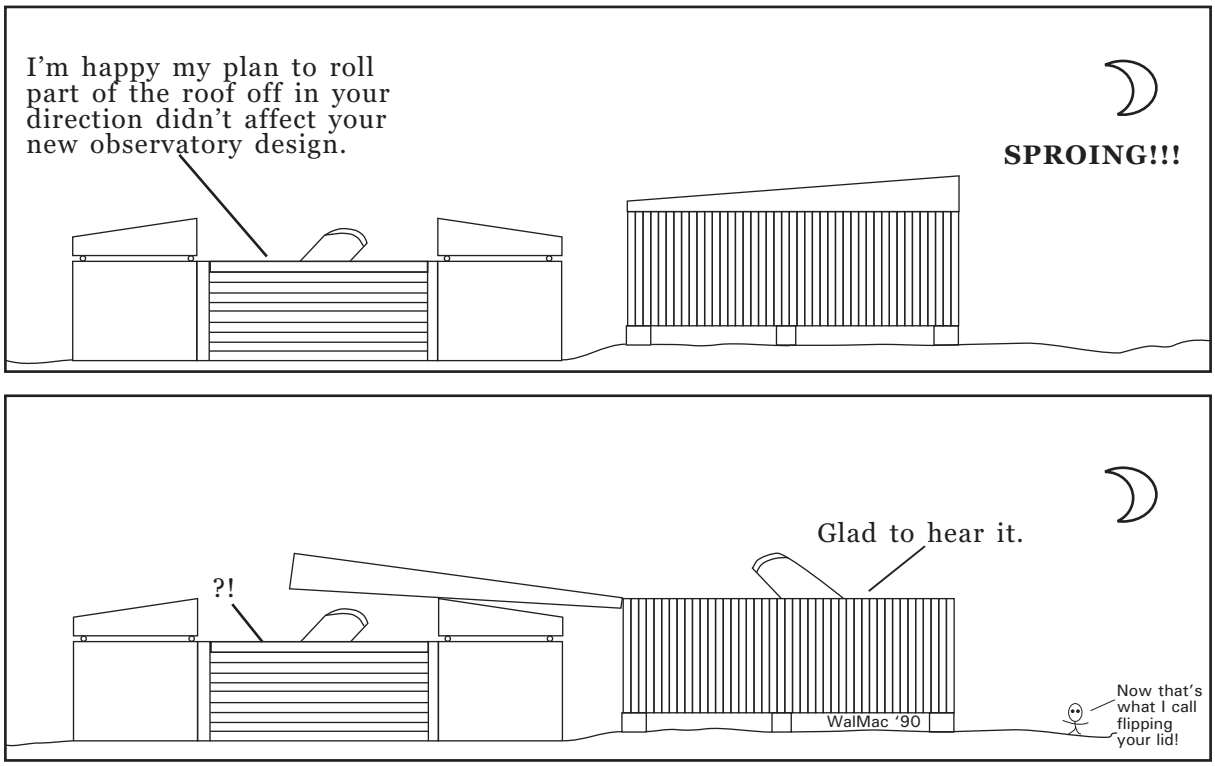

"A NIGHT OFF"

By Walter MacDonald

So you don't feel like observing and want the night off? Let's look at what you are asking for.

There are 365 nights per year available for observing. There are 12 months of the year in which the moon uses up 13 nights, leaving 209 nights available. Since the skies are often cloudy, you have used up another 156 nights, leaving only 53 nights available. You spend 4 clear -20°C nights a month indoors during the winter and that accounts for 24 nights, leaving only 29 nights. With clouds (nebulae?) of mosquitos each summer, you have used up another 10 nights, leaving only 19 nights available for observing. You normally lose 6 nights to the Aurora Borealis (or Australis -- there's no escaping it!). This leaves you only 13 nights available for observing. Dew and frost claim 5 nights each year and social commitments 4, so your available observing time is down to 4 nights. Inevitably, you have 3 nights of bad guiding and various kinds of equipment failure each year, which leaves only one night, and if you take that night off, you won't get any observing done this year!

STARFEST '90 (continued)

David Levy gave the final talk on Saturday night. In his closing remarks, he mentioned that he had only one regret--that he could not share his comet-hunting success with his father. But he noted that he could do something much better than that... He could **introduce the heavens to children**--among whom are the **next generation** of astronomers and other scientists. I'm sure many in the audience were inspired to try harder to do likewise.

All in all, in spite of the weather, I think everyone at STARFEST '90 came away with positive thoughts and feelings.

I certainly look forward to attending again.

MESSIER CERTIFICATE

The Society's **MESSIER CERTIFICATE** was presented to **Stanley Hanna** at the August 10th meeting.

An impressive achievement, Stan.

Congratulations!

AURORA HOTLINE

Would you like to be **notified** in the case of an impressive **aurora.** If so, get on the **AURORA HOTLINE.** Phone **Denise** for details: **000-0000.**

QUESTION OF THE MONTH

WHEN IS THE DURATION OF TWILIGHT A MINIMUM?

Answer next issue.

-- DAVID STOKES

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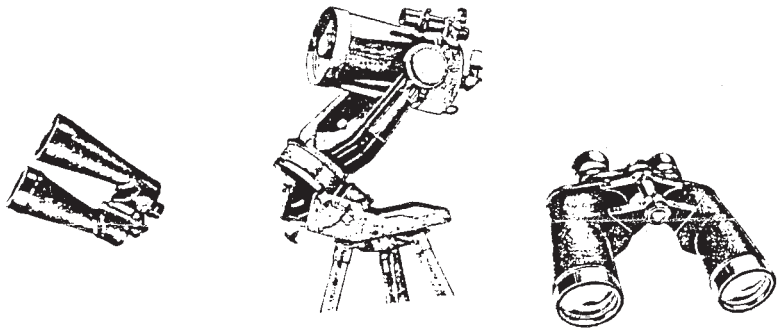

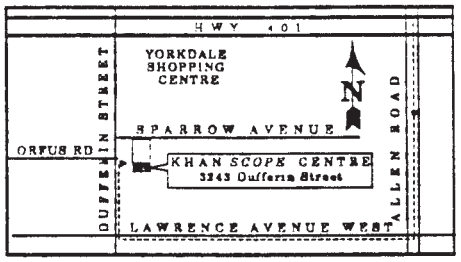

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"TRANS-WARP TELESCOPE" A REALITY?

By Walter MacDonald

It would appear that the "trans-warp telescope" depicted in **"The Celestial Observer"** (June-July-August 1990 **Regulus**) is about to be superceded by a new **NASA-Goddard telescope** at Kitt Peak! Dubbed the **Rapidly Moving Telescope** (RMT) it is a fixed 7-inch telescope and CCD camera which look down onto a flat mirror. This flat mirror can be **slewed to any point on the sky in under a second**! Don't believe it? Check out the August 1990 issue of Sky & Telescope, page 144.

(Unconfirmed reports have the Russians working on an enhanced version of the RMT which utilizes a number of flat mirrors arranged in a sphere. This system, **"Discoscan"**, is slated to go into operation on....)

CHINESE FOOD AND DAVID LETTERMAN

(Reprinted from **ORBIT**, the newsletter of the **Hamilton Centre**. February 1990.)

Neil Rogers took care of everything when he planned the banquet at the Lucky Star restaurant in December, but one thing even a veteran social planner cannot do is ensure that his or her guests will have a good time. Well, needless to say, a silly time was had by all--a typical fun gathering of Hamilton Centre members. At the table where Karyn and I were seated, the conversation rose to great heights, and dived to the darkest depths of punnery. The highlight of the night included a "top ten" list in the spirit of the David Letterman show. Read on!

THE TOP TEN REASONS WHY JUPITER'S SOUTH EQUATORIAL BELT HAS SUDDENLY DISAPPEARED:

10. **Carl Sagan is using it for a headband--in flatland.**
9. **Jupiter bad to sell it to pay for the G.S.T.**
8. **It was mailed by Canada Post.**
7. **It's on Mikhail Gorbachev's forehead.**
6. **Roseanne Barr ate it.**
5. **It's buried with Jimmy Hoffa.**
4. **Exxon finally cleaned it up.**
3. **Elvis is wearing it.**
2. **It's hidden in the Vatican Embassy.**
1. **Peter Pocklington traded it to L.A.**

ASTRO JUMBLE

Unscramble the letters (see clue), then use the **circled letters** to solve the puzzle. Answer in next issue. Good luck!

CLUE: **NAMES OF STARS**

R A M Z I

B A D E A R N A L

G E R L I

S A T N A R E

R U S S I I

WHAT AN ASTRONOMER IS...

A

Answer from last issue:

EYEPIECE, LENSES, CLOCK DRIVE, MIRROR, MOUNTING
What Good Observing Depends On: **SEEING**

FALL OBSERVING CALENDAR

Mercury: In **inferior conjunction** on Sept. 8. Reaches **greatest elongation west** (18°) on Sept. 24. Passes 3° south of Venus on Sept. 14. Visible very low in east before sunrise.

Venus: Visible very low in east just before sunrise. Passes 0.8° north of Regulus on Sept. 6 and 3° north of Mercury on Sept. 14. Closes in rapidly on Sun. Not visible in October.

Mars: In Taurus, passing between the Hyades and Pleiades early in September. Passes 4° north of Aldebaran on Sept. 24-25. Size is about 11" at Sept. 1 and grows to about 17" by October 31. Retrograde (westward) motion begins Oct. 20.

Jupiter: In Cancer, rising about 4 hours before the Sun. Stands about 40° above eastern horizon at sunrise. At beginning of October, passes just south of Praesepe star cluster.

Saturn: In Sagittarius, well-placed for observing. In September, just east of south at sunset end sets about midnight.

COMETS	Date	R.A. (2000)	Dec.	E	Mag.
Levy	Sept. 1	18 38.0	-19 14	120	3.5
	11	17 02.3	-31 53	89	3.9
	21	16 09.5	-36 29	70	4.2
	Oct. 1	15 38.6	-38 32	56	4.4
	11	15 17.6	-39 38	44	4.6
P/Honda-Mrkos-Pajdusakova	Sept 1	8 21.7	+15 50	35	8.1
	11	9 10.4	+14 33	33	7.9
	21	9 56.3	+12 15	31	8.8
P/Encke	Sept. 1	5 39.5	+35 15	73	13.2
	11	6 49.4	+35 47	68	10.0
	21	8 17.3	+32 51	60	9.0
	Oct. 1	9 50.8	+24 48	47	8.3
	11	11 13.9	+13 01	34	7.9
	21	12 26.1	+ 0 21	22	7.9

LUNAR PHASES				
Sept. 5	FULL MOON	Oct. 4	FULL (Harvest Moon)
11	LAST QUARTER	11	LAST QUARTER
19	NEW NOON	18	NEW NOON
27	FIRST QUARTER	26	FIRST QUARTER

OTHER ITEMS OF INTEREST

Sept. 23 AUTUMNAL EQUINOX

Oct. 21 ORIONID METEORS

H A P P Y O B S E R V I N G

INFORMATION SHEET NUMBER 19 (Edition No. 1, January 1990):

INTERNATIONAL DARK-SKY ASSOCIATION
3545 N. Stewart, Tucson AZ 85716 U.S.A.

The American Astronomical Society's Position on Light Pollution

This is a one page summary of the American Astronomical Society's Committee on Light Pollution, Radio Interference, and Space Debris position about the light pollution issue. It has been endorsed by the Society's Board of Directors, and can be used by anyone to state astronomy's concern and its position on the problem.

A. Astronomy
1. There are very few prime observing ground-based optical/infrared observing sites.
2. They need protection from light pollution (adverse, man-made urban sky glow).
3. Ground-based astronomy is not dead or dying (due to space astronomy or any other technique) but is more vital and needed than ever.
4. Astronomy is important to the U.S.A. and to the public.

B. Light Pollution
1. There is a serious problem with light pollution.
2. There are solutions to the problem.
3. These solutions do work. With them, ground-based optical astronomy will have a viable and exciting future.

C. The Solutions
1. Use the right amount of light for the task, not overkill. ("The more the better" is bad design.)
2. Remove the non-visible light (wasted energy: the ultraviolet and infrared) by filters or other techniques, including the choice of light source to be used.
3. Control the emitted light, by fixture choice, by shielding, by placement, etc. Use well designed task lighting, to minimize wasted light, light trespass, and light pollution.
4. Take advantage of lighting controls, such as timers and dimmers. The second half of the night can be darker than the first half and not compromise efficient living.
5. Consider also the effects of air pollution, ground reflection, etc. as items that can increase the sky glow.
6. Avoid growth nearest the prime observatories, and use more rigid controls near such observatories.
7. And especially: Use monochromatic light sources whenever possible. Presently, this means low pressure sodium (LPS) sources. Areas where LPS is especially good: street lighting, parking lots, and security lighting.

D. Summary
1. All of this says, really: "Use the best possible professional light design and installation for the task, including all relevant factors, of which light pollution is one."
2. Almost all of the solutions needed for protecting astronomy have positive side benefits of maximizing the energy savings and improving the efficiency of the lighting design.