



**SASKATOON  
SKIES**

Volume 12

FEB-MAR  
Numbers 2&3





G.A. '82

# STAR TRAK

INSTRUMENTS

NOW  
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# STAR TRAK

INSTRUMENTS



# SASKATOON SKIES



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**FEB-MAR 1982**

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# AURORA

PHOTOGRAPHING THE

By Len Gamache

The clouds, moon and aurora almost wiped out deep sky photography in 1981. A very active sun was responsible for the intense aurora. Naked eye sunspots were easily visible through Mylar filters and occasionally before sunset through the smoke generated by the numerous forest fires. At night, the Northern lights, powered by huge solar flares were very spectacular. There's nothing quite like the sensation you get while staring wide-eyed at a fabulous aurora. A photograph brings back those memories and helps you to share a bit of that evening with friends. Because I had taken hundreds of auroral shots last year, someone suggested that I should share my experience with other members.

You will need in the way of equipment: Any camera that allows you to keep the shutter open manually will do. The most popular type of camera with this capability is the 35mm SLR (single lens reflex). This type of astrophotography does not require a telescope or any of its many accessories, so the camera will be the most expensive item. Most SLR's have a B setting which allows the shutter to remain open as long as the shutter release button is held down. There are two types of shutter cables which will perform this task for you, so you don't have to touch the camera. I prefer a rubber, air pressure release because its long enough to rest on the ground. The short metal coil cables can transmit vibrations. These vibrations are a major cause of blurred photographs.

Although a tripod is not a necessity, it can make ones life a lot easier when an exact positioning of the camera is needed. Look for a tripod that's sturdy with cost being the limiting factor.

Most 35mm SLR's have interchangeable lenses. A standard 50mm will accept the Big Dipper but the aurora usually covers a larger area of the sky. It's not practical to buy a fisheye lens, that will give you most if not all of the sky, because they're costly, very slow (f/4.5) and distort the image. A wide angle lens is preferable. I use a 28mm f/2.8, it's fast, inexpensive and also ideal for group photos. This lens can fit in the whole Summer Triangle very nicely.

There are many excellent brands of film on the market. Black and white is less expensive, but a color shot is much more exciting. Color film also brings out the faint hues of green and red that can't always be seen with the naked eye. A fast film is necessary to freeze the sharp edges on the bottom of the auroral curtain and the well defined ray structure which often accompanies it. The grain of a fast print film is very coarse but fast slide film gives good results. 400 ASA film will give you a hard, sharp photograph. 200 ASA will pleasantly soften the aurora but you'll have to double the exposure time. Finer grain films can produce better enlargements but cannot record crisp images because of their slower speeds. I've taken photos using a 64 ASA slide film. This resulted in the aurora coming out as a soft green blur, and the exposure took about 8 times longer than using a 400 ASA film.



Photo: G. Westcott

Different brands of film and even different speed ratings have a variety of color balances. Some will pick up more red while others more green or blue. It's a good idea to try a few and pick the one that most pleases you.

Although I might try gas hypersensitized film in the future, I still haven't used any for auroral photography. Once the film is removed from the forming gas it immediately begins to desensitize. This film is much more effective for long exposure deep sky work. The aurora is already a variable light source, hence it's best to use a film which gives consistent results.

Getting out of the city is a must but it's not necessary to travel hundreds of kilometers. If the aurora is really intense it will show up well above the city from the southern perimeter.

When I show my photographs to my friends and relatives, their reactions are usually "That's nice." then they come to a picture which has a tree or a view of the horizon, then I get "Wow! That's a beautiful shot." People need familiar objects or scenery to give them a sense of perspective. I've moved my tripod many times just to get a better photo. Setting up on sod will allow any vibrations to dampen out more quickly



Photo: G. Westcott

than if rested on concrete or wood. The shakiest part of a tripod is not the legs, but the shaft that holds the camera platform and allows it to be raised and lowered. Keep the platform as low as possible and you'll be able to photograph the aurora from a comfortable sitting position.

The trickiest part of auroral photography is the exposure time for the film. The table below will give you a starting point that should yield good results. Because the aurora varies in brightness so rapidly your experience will be the determining factor in achieving excellent photographs. It's wonderful to combine the two hobbies of astronomy and photography but please don't let celestial photography become a chore and dampen your enthusiasm for astronomy.

F STOP OF LENS	A.S.A. 400	A.S.A. 200
f/1.2	2 seconds	3 seconds
f/1.4	3 seconds	5 seconds
f/2	4 seconds	7 seconds
f/2.8	10 seconds	20 seconds
f/3.5	20 seconds	40 seconds

As you halve the A.S.A. you should double the exposure time.

For more information contact Len Gamache or send questions to the editor.

### HOSERS IN SPACE

WRITTEN BY CHRIS RUTKOWSKI, ILLUSTRATED BY DAVE SINE





# NEWSLETTER

**Mailing Address:**

The Royal Astronomical Society of Canada  
Saskatoon Centre  
Sub P.O. No. 6, Box 317  
SASKATOON, Saskatchewan  
S7N 0W0

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Saskatoon Centre  
P.O. Box 317 Sub 6  
Saskatoon, Saskatchewan  
S7N 0W0

NEWS RELEASE

AMATEUR TELESCOPE MAKING

Each spring, amateur telescope makers from the United States and Canada meet in Riverside, California, to display home-built telescopes and equipment. It is an opportunity to see what other amateurs are doing in this field, which is seemingly dominated by commercial instruments.

The public is invited to attend the next General Meeting of the Saskatoon Centre of the Royal Astronomical Society of Canada, when Stewart Krysko, a guest lecturer from the Queen Elizabeth Planetarium in Edmonton, will present an illustrated talk entitled "The Riverside Amateur Telescope Makers' Conference", in which he recounts some of the happenings at the May, 1980 conference. He will also describe some of the innovative instruments on display there. Many of these have features not usually available on commercial instruments.

MONDAY, MARCH 15, 1982  
8:00 PM

ROOM B-111, HEALTH SCIENCES BUILDING  
UNIVERSITY OF SASKATCHEWAN

The meeting will adjourn to the U of S Observatory for coffee and viewing through the 7" telescope, weather permitting. There is NO ADMISSION CHARGE. For additional information, contact Mike Wesolowski, 374-3331.

Please display, publish or broadcast this news release/public service announcement on behalf of the Saskatoon Centre of the Royal Astronomical Society of Canada. Mike Wesolowski, Vice President.

*Mike Wesolowski*



# The Royal Astronomical Society of Canada

Saskatoon Centre  
P.O. Box 317 Sub 6  
Saskatoon, Saskatchewan  
S7N 0W0

## NEWS RELEASE

### GRAVITATIONAL LENSES

Seventy years ago, Einstein predicted that gravity deflects light rays. The effect was detected a decade later, but only in the past few years has the gravitational deflection of light been put to use. Today it is providing us with information on quasars and it will allow us soon to measure cosmic distances with certainty.

The general public is invited to attend the next General Meeting of the Saskatoon Centre of the Royal Astronomical Society of Canada, when Dr. Ray Skinner, theoretical physicist at the University of Saskatchewan, will present a talk entitled "Giant Spy-Glasses in the Heavens" in which he will discuss the physical basis for the gravitational deflection of light in terms the layman can understand. He will then go on to discuss the uses of gravitational lenses in astronomy.

MONDAY, FEBRUARY 15, 1982  
8:00 PM  
ROOM B-111, HEALTH SCIENCES BUILDING  
UNIVERSITY OF SASKATCHEWAN

The meeting will adjourn to the U of S Observatory for coffee and viewing through the 7" telescope, weather permitting. There is NO ADMISSION CHARGE and everyone is welcome to attend. For further information, contact Mike Wesolowski, 374-3331.

Please display, publish or broadcast this news release/public service announcement on behalf of the Saskatoon Centre of the Royal Astronomical Society of Canada, Mike Wesolowski, Vice President.

*Mike Wesolowski*

# MINUTES OF AN EXECUTIVE MEETING

Saskatoon Centre of the Royal Astronomical Society of Canada

PLACE - - - U of S Observatory

DAY / DATE - Monday, January 18, 1982

TIME - 7:00 p.m. C.S.T

PRESENT: Gordon Patterson, Mike Williams, Mike Wesolowski,  
Patrick Skinner, Walter Fernets, Lillia Wilcox,  
Richard Huziak, Joan Badger, John Greer, Doug  
Miller, Jim Young.

- | ITEM | DETAIL   | ACTION   |
|------|--|--|
| 30.  | Non-members may attend functions at the General Assembly, but cannot attend the General Meeting.   | G.Patterson                                    |
| 31.  | Centre members who will not be staying in residence during the General Assembly must pay registration fee.   | G.Patterson                                    |
| 32.  | Possibility of tours for the General Assembly was discussed.   | J. Badger                                      |
| 33.  | Name tags for the General Assembly was discussed.  | J. Badger                                      |
| 34.  | Centre Newsletter covers were discussed.<br>-Motion for the expenditure of money up to \$250.00 for the purchase of paper for the newsletter cover was made.                   | J. Greer<br>J.Badger<br>seconded M. Wesolowski |
| 35.  | Due to postage increases, newsletters should be picked up at the General Meeting.<br>-Out of town newsletters will still be mailed after General Meeting.                      | J. Greer                                       |
| 36.  | Programme for February meeting as not yet solid<br>-March- Mr. Krysko guest speaker from Edmonton. In exchange, John Greer will be guest speaker in Edmonton on March 8, 1982. | G.Patterson                                    |
| 37.  | Centre exhibit for General Assembly was discussed.   | G. Patterson                                   |
| 38.  | A display for Astronomy Day will again be set up in Lawson Heights Mall on May 1, 1982.  | G. Patterson                                   |
| 39.  | Some registrations for the General Assembly have already been returned.  | G.Patterson                                    |
| 40.  | General Assembly briefly discussed.<br>Accommodation- Lillia Wilcox, Mike Williams, Patrick Skinner.<br>Group Photo- Joan Badger -Affirmed                                     | Newsletter 7                                   |

## ITEM DETAIL

## ACTION

41. Publicity-The possibilities for the public to view exhibits is being investigated. G. Patterson

## MINUTES OF A GENERAL MEETING

Saskatoon Centre of the Royal Astronomical Society of Canada

PLACE - - - Room B111, Health Sciences Building, U of S Campus

DAY/DATE - Monday, January 18, 1982

TIME - 8:00 p.m.C.S.T

PRESENT: Gordon Patterson, Mike Williams, Patrick Skinner, Walter Fernets, Lillia Wilcox, Richard Huziak, Joan Badger, John Greer, Doug Miller, Jim Young, Mike Burianyk.

## ITEM DETAIL

## ACTION

42. Meeting called to order 8:00 p.m. G. Patterson
43. December minutes adopted as published J. Badger  
J. Young  
Carried
44. Non-members attending the eneral Assembly will not be allowed to attend the annual meeting. G. Patterson
45. Mike Wesolowski has volunteered to be in charge of the Centre Exhibit. G. Patterson
46. A motion for the expenditure not to exceed \$250.00 for materials to be used for the Centre Newsletter was made. J.Greer  
R. Huziak  
Carried
47. Newsletters are to be picked up at the General Meeting due to increased mailing costs (for in town members only.)  
--In town members will be notified by phone regarding monthly meetings. G.Patterson
48. In March there will be and exchange of speakers. G.Patterson
49. Dr. George Sofko, our guest speaker, gave a very informative lecture entitled "The Northern Lights.)
50. Meeting adjourned to Observatory at 9:22 p.m. J. Badger



# MINUTES OF AN EXECUTIVE MEETING

Saskatoon Centre of the Royal Astronomical Society of Canada

PLACE - - - U of S Observatory  
DAY/DATE - Monday, February 15, 1982

TIME - 7:00 p.m. C.S.T

PRESENT: Gordon Patterson, Mike Williams, Lillia Wilcox,  
Jim Young, Mike wesolowski, Doug Miller, Patrick  
Skinner, Len Herrem, Dr. Ray Skinner, John Greer.

ITEM	DETAIL	ACTION
51.	Meeting called to order 7:00 p.m.	G.Patterson
52.	Local members are reminded that there is a \$20.00 registration fee for the General Assembly. Registration forms are to be filled out and returned as soon as possible. -Unless staying in residence on campus during the General Assembly, you will be required to pay for meals in the cafeteria.	G.Patterson
53.	A letter regarding supposed lack of material for the 1982 General Assembly was received from the National Newsletter.	G.Patterson
54.	February issue of Saskatoon Skies has not been published due to move of the printer.	J.Greer
55.	Materials for newsletter covers were purchased at well under approved cost. -possibility of change in format for Saskatoon Skies was mentioned.	J.Greer
56.	The coming month's program will be an exchange speaker from Edmonton.	G.Patterson
57.	An update on plans for the 1982 General Assembly was given.	G.Patterson
58.	The Centre will again observe Astronomy Day by holding a public display at the Lawson Heights Mall.	G.Patterson
59.	Members willing to help organizing committee for the General Assembly should get in touch with any executive member.	G.Patterson

# MINUTES OF A GENERAL MEETING

Saskatoon Centre of the Royal Astronomical Society of Canada

PLACE - - - Room B111, Health Sciences Building, U of S Campus

DAY/DATE - Monday, February 15, 1982

TIME - 8:00 p.m. C.S.T

PRESENT: Gordon Patterson, Mike Williams, Jim Young,  
Mike Wesolowski, Doug Miller, Patrick Skinner,  
Len Herrem, Dr. Ray Skinner, John Greer.

ITEM	DETAIL	ACTION
60.	Meeting called to order 8:00 p.m.	G.Patterson
61.	February newsletter not published due to move of printer. -Double issue next month	G.Patterson
62.	Exchange speaker from Edmonton next month for General Meeting	G.Patterson
63.	January minutes adopted as read.	Mike Williams Jim Young
		Carried
64.	Those attending the 1982 General Assembly should register as soon as possible.	G.Patterson
65.	Physics For Fun-February 24, 8:15 p.m. Film includes "Road to Mauna Kea"	G.Patterson
66.	Dr. Ray Skinner gave a very informative talk on "Giant Spy Glasses in the Sky".	
67.	Meeting adjourned at 9:05 p.m.	J.Greer

## A WORD FROM THE PRESIDENT

Every member of the Saskatoon Centre should note that we are rapidly approaching the date for the 1982 General Assembly to be held in the U of S Physics Building 21-23 May inclusive. There is still a lot to do before that date, and your Executive will have need for volunteers to help them in various capacities. If you can help, please give your name to any Executive member and indicate where you can assist.

Centre members should also realize that this is an event that comes to many members only once in a long time, and this time at minimal expense, ie, your registration fee of \$20.00. Come and find out what goes on at a General Assembly, and take the opportunity to meet many RASC members from other Centres across Canada; members who until this time have only been a name in the Journal or National Newsletter.

I see in the Minutes of National Council Meeting, 30 Jan. 1982 that concern was expressed about the limited amount of information disseminated to RASC Members, this despite the fact that we distributed full information at the Victoria GA. How much notice is required? The only change from that program tabled by our representative at the Victoria GA is the addition of two categories to the competitive displays and the fact that the IAPPP will be presenting papers on the morning of 23 May. It is true that we did not table the program in french, but while several of us speak french, very few, if any, can write it, and a check with translation agencies gave a firm price of \$70.00 per page. This was too great an expense for us, so I asked our friend, Damien Lemay of the Quebec Centre to translate the program sheets for us, and I wish to thank him for doing this work for us. This again highlights the need for an instruction manual to guide those who are hosting a GA.

Anyway, be sure and register for the GA early

Gordon N Patterson



A WORD FROM TORONTO

January 25th, 1982.

Mr. Gordon Patterson,  
President,  
The Royal Astronomical Society of Canada,  
Saskatoon Centre,  
Sub P.O. No. 6, Box 317,  
SASKATOON, Saskatchewan,  
S7N 0W0

Dear Mr. Patterson:

Please excuse my delay in replying to your letter of October 28th, 1981.

I did not intend to sound negative in my article on the Victoria G.A. I was impressed with the work the Saskatoon General Assembly Committee had completed by June 26th and in retrospect, I wish I had mentioned this in the article. The comments I made regarding the advertising of your General Assembly so early during the G.A. in Victoria was not meant to point the finger and blame the Saskatoon Centre, but rather as a suggestion for future General Assemblies. If the Saskatoon Centre was competing with other Centres at the time of the Victoria G.A. for the honor of holding the next one, then I could see the need for the large campaign.

I would rather have seen time set aside during the banquet proceedings when the members of the Saskatoon General Assembly Committee could have formally invited the R.A.S.C. membership to attend. A few slides of Saskatoon and a presentation of the agenda would have been perfect.

I am the last person to put down enthusiasm and new ideas at functions such as General Assemblies. I just would like to see this energy directed in a way as to not hurt anyone's feelings. In your preparations for the G.A., maybe you could invite the Quebec City delegation to make such a presentation as the one described.

I am sure no rudeness was intended on the part of the Saskatoon Centre by distributing the material. I am sorry you took my personal feelings and opinions about the event as an insult or attack. However, I wish you had given me a chance to reply to your letter before publishing it in your newsletter.

Mr. Gordon Patterson,  
Page 2,  
January 25th, 1982.

I suggest Mr. Patterson, that we consider the matter closed and hope you will accept my best wishes and good luck with your further preparations for the 1982 General Assembly.

Yours Sincerely,

*Randy Attwood*  
Randy Attwood,  
Editor, 'SCOPE

c.c. MR. John Greer,  
Editor, SASKATOON SKIES

WHAT'S NEW--WHAT'S HAPPENING

--Edmonton Space Science Center Goes Ahead--

After a long wait, ground was broken for the Space Science Center earlier this year. The new complex will include a large planetarium with a Zeiss projector and a large screen theater. Complete audiovisual and technical shops as well as extensive classroom facilities and an observatory will be included in the Center, which is to be built near the site of the present Queen Elizabeth Planetarium.

--Astronomy Day 1982--

This year, Astronomy Day falls on May 1, and the Saskatoon Centre will once again present a public display at Lawson Heights Mall. The Centre needs the help of the members at large to present the display, as the manpower required will be extensive. More information will be available at upcoming General Meetings, or contact the Editor at 664-2933 (ALPHA GRAPHICS).

--STAR TRAK Saskatoon--

Saskatoon Centre member John Rowlandson has recently opened his new store here in the city. The store stocks a wide variety of telescopes, accessories, books, posters, and many other items. The address is:

#1-1730 Quebec Avenue (Canadiana Business Centre)

Telephone 934-4770

Mailing address is:

Box 8625

Saskatoon, Saskatchewan

S7K 6K7