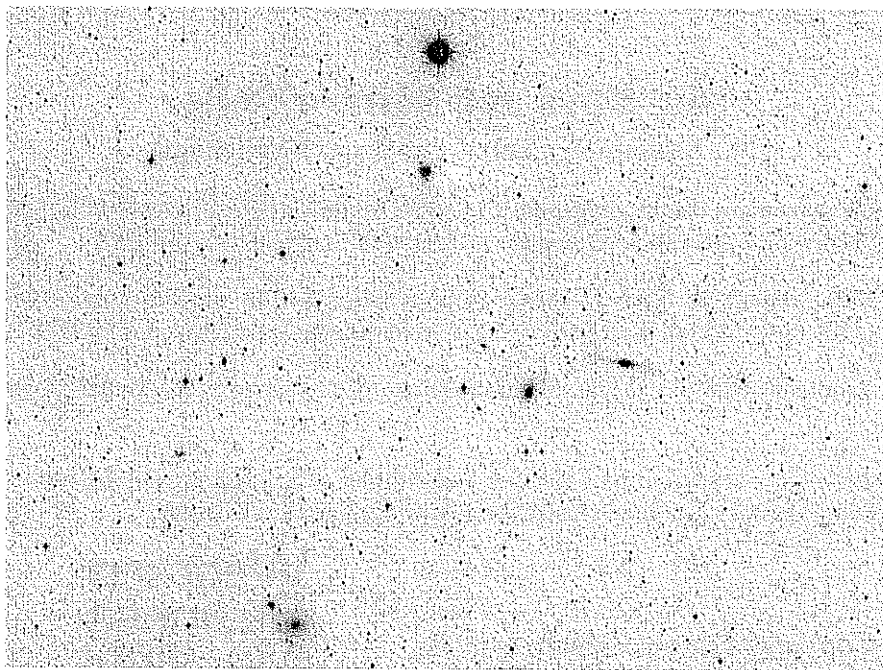


Saskatoon Skies

The Newsletter of the Saskatoon Centre
of the Royal Astronomical Society of Canada

Volume 31, Number 01

January 2000



Scott Alexander gives us a great look at four excellent galaxies in Aries in his Deepsky Observer's column for this month. NGC 691, NGC 680, NGC 694 and NGC 678 are excellent galaxies for the deep visual observers, and better yet if you have a scope like Scott's 14-1/4"! This view is from the Digital Sky Survey.

RASC Calendar Happenings

Date (2000)	Event	Contact	Telephone
Jan 14	Jr. Astronomers Meeting	Sandy Ferguson	931-3184
Jan 17	General Meeting	Les Dickson	249-1091
Jan 20	Total Lunar Eclipse - see Handbook	Rick Huziak	665-3392
Jan 29 or Feb 5	Observers Group Meeting at Sleaford - <i>note the alternate dates!</i>	Andrew Krochko	955-1543
Feb 2	Venus 1.1° below the moon at 7 a.m.		
Feb 11	Jr. Astronomers Meeting	Sandy Ferguson	931-3184
Feb 14	Best view of Mercury in '00 - 18° E of Sun		
Feb 21	General Meeting - Dr. P. Bergbush	Les Dickson	249-1091

Sky Buys and Mirror Sells

The Saskatoon Centre's Swap and Sale Page!

For Sale: Great astronomy books: *Burnham's Celestial Handbook* (hardcover, 3 vol.) \$50.00. , Other titles available, including a great book on Jupiter.. Call Darrell Chatfield, tel. 374-9278.

For Sale: 1-1/4" eyepiece & filters - Kellner 9mm eyepiece \$40.00, Antares 10mm Plossl eyepiece \$100.00, Orion OIII Filter \$85.00. Call Darrell Chatfield for pricing and trials. tel. 374-9278.

For Sale: 2" Lumicon Deep Sky (Light Pollution) Filter. \$200.00 obo. Call Andrew Krochko at 955-1543.

Astro Goods for Sale - check out past-member Doug Miller's <mildg@sk.sympatico.ca> Web Site at <<http://www.minerals.sk.ca/astronomy/astronomy.html>> for great astro goods.

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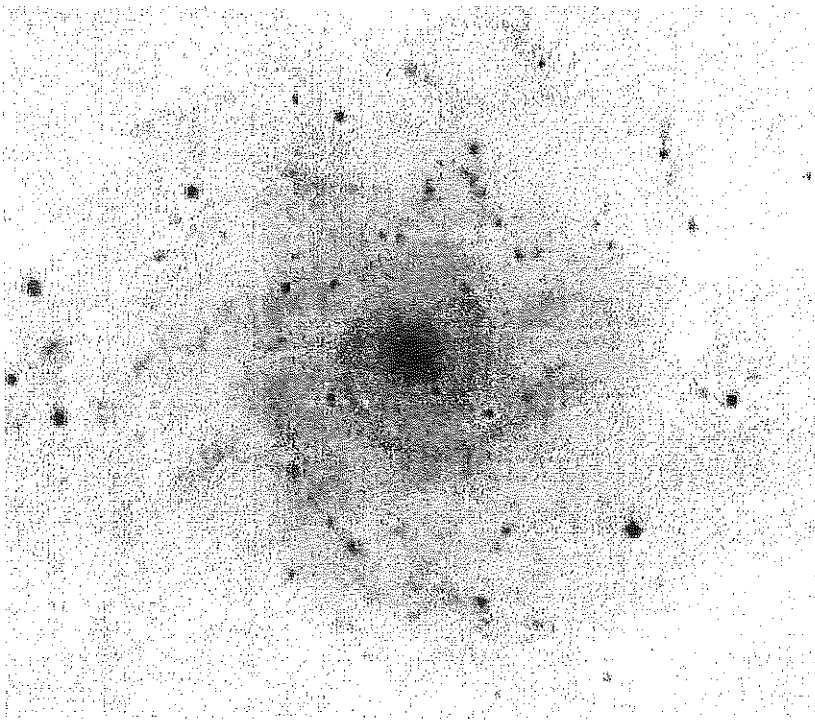


Newsletter Editor - Richard Huziak
 Copy - Brian Friesen & WBM
 Collate - B. Friesen, L. & E.
 Dickson, S. Ferguson, W. Essar

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Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 165 copies per issue. *Saskatoon Skies* welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science articles. Articles can be sent by mail in any format to the Centre's mailbox. Submissions may also be sent by e-mail - preferred as **plain unformatted ASCII text files without line breaks**. Images sent by e-mail should be attached .GIFs, .JPGs or similar. Send e-mail submissions to the editor at <huziak@SEDSsystems.ca>. Submitted materials can be returned upon request. Please send articles in "generic" formats, with standard grammatical formatting appreciated - 5 spaces at the beginning of paragraphs, two spaces after periods, one space after commas. A separate subscription to *Saskatoon Skies* is available for \$12.50 per year. Articles may be reprinted from *Saskatoon Skies* without expressed permission (unless otherwise stated), but source credit is requested. **DEADLINE for submissions is the 26th of each month.** *Saskatoon Skies* accepts commercial advertising. Please call the editor for rates. Members can advertise non-commercial items free of charge.



Observing M74 by Andrew Krochko

After the meeting on December 13th, Rick Huziak, Sandy Ferguson, Mike Stephens and I went out to Sleaford to observe the Geminid Meteor shower. While the others observed the shower I used the University's Meade 8" to find M74 (NGC 628) before it sank too low. Thanks to my *Sky Atlas 2000.0* charts I was able to star hop to exactly the right place, although it was more difficult than normal because the right angle finder on that telescope

gives a mirror image.

After finding the right place I saw nothing at first, but then noticed a suspicious brightening which I centered the telescope on. It was very faint but it was quite big. It seemed too faint to be a Messier object so I rechecked the position in the finder scope to reassure myself that this was indeed M74. With time I could pick out the brighter central part and one other bright spot and it seemed to be becoming brighter. At one point I was staring at it with averted vision when all of a sudden I saw the spiral arms! It was as if someone had suddenly put a photograph in its location at the edge of my vision. I looked at it immediately and, of course, it nearly disappeared as I used the less sensitive central part of my vision. I was unable to see the arms again but it was amazing to be able to see that much in an object which I couldn't even see at first. I noted where I saw the arms, checked a photograph and found I was indeed correct. I had no knowledge of the orientation of the arms prior to making this observation. I told Darrell Chatfield about this later on and he told me he had also seen the arms in M74 with his C8 from Rystrom's.

I have read about a "sweet spot" on our retina which is more sensitive to light than elsewhere. I expect that when I saw the arms of M74 I had found my "sweet spot". With experience, I expect to be able to exploit this property to its full potential. In the past, I have also read about people seeing more detail in an object by staring at it with averted vision for up to 6 seconds. I expect that by using a combination of these two techniques - finding and using your "sweet spot" and staring with averted vision - we may be able to see a lot more detail in deep sky objects than we would otherwise.

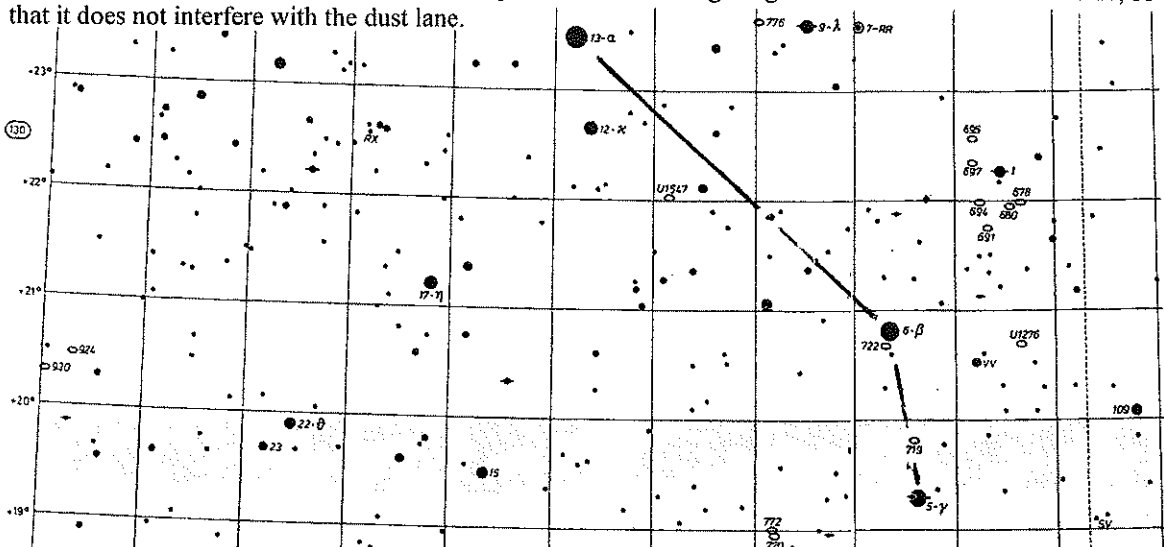
THE DEEPSKY OBSERVER

Galaxy Hunting in Aries

by Scott Alexander

OK... so how's it going out there? I hope really good! This month's installment of *THE DEEPSKY OBSERVER* is going galaxy hunting in the constellation of Aries. We will be looking at 4 galaxies called NGC 691, NGC 680, NGC 694 and NGC 678. All of these galaxies are between the magnitudes of 11.4 and 13.7, which makes them not too hard to find in an 8-inch telescope from a dark sky sight.

The first one is NGC 678. It is an edge-on galaxy with very wide arms and a very big central bulge. There appears to be a dust lane running through the center of the galaxy, which extends out to the outer ends of the arms in the pictures that I have seen. The dust lane is not too bright, so you will have to look for it using high magnification, which allows you to move the bright light of the nucleus off to one side, so that it does not interfere with the dust lane.



This cluster of galaxies can be found near the star I Arietis, just to the upper right of the "blade" of the hockey stick that the main stars of Aries makes! This view is from Uranometria 2000 charts #128 & #129, copyright Willmann-Bell, Inc. 1988.

The next galaxy is called NGC 680. This is a blob (as I would call it). It is tilted almost face-on to us. So what you will see is a smaller galaxy than NGC 678 with just as bright of a center, but no wide arms or any dust lane (that I can see). The arms that it has are fainter than NGC 678's and very tight in towards the galaxy. I can not see any separation between the arms of this galaxy. (In a *normal* spiral galaxy you can see between the arms because there is less dust to interfere with your seeing stars behind the galaxy). Give it a try!

There also is a galaxy almost right next to NGC 680. It appears to be an edge-on galaxy of half-to-one-quarter of the size of NGC 680. It is right in line with the arms of NGC 678, towards the side that NGC 680 is on.

The next galaxy is called NGC 691. This galaxy is the biggest in this cluster. This one has very big arms and a fainter center to it. The spiral arms go right around the galaxy - kind of like an @ symbol that is used in your e-mail docs - only a *tilted* @ symbol. In this galaxy there is a fainter dust lane very close in to the center, which only appears to go halfway around the top portion, but still close in. The dust lane is so close to the center that you may not be able to see it due to the light from the nucleus. But try it anyway. There is also a fainter galaxy right next to NGC 691 - just to the left of two brighter stars next to the galaxy.

The last galaxy is called NGC 694. For my money this is the nicest galaxy in this small cluster. It has wide open arms that fall off of the central bulge like water off of a water sprinkler. The centre is peanut-shaped with the arms coming off of either end and several bright star forming regions in the one arm closest to the centre. Use high power to look at the arms of this galaxy (*really nice!*).

So that is my article for this month. Good luck and clear skies, eh?

HERE IS THE INFORMATION ABOUT THE GALAXIES:

NAME	RA	DEC	TYPE	MAG	SIZE
NGC 678	01 49.4	+22 00	SB(s)b: sp III	12.2	4.6 x 1.0
NGC 680	01 49.8	+21 58	E peculiar	11.9	2.7 x 2.4
NGC 691	01 50.7	+21 46	SA (rs)bc	11.4	3.5 x 2.5
NGC 694	01 51.0	+22 00	SO? peculiar	13.7	0.5 x 0.3

IN MEMORIAM: GERRITT BUITENHUIS

It is with sadness that we report the passing of Gerritt Buitenhuis, a valued member of our Centre's Youth Group, on December 26, 1999, after a lengthy illness. Along with his younger brother, Robert, Gerritt had been an active member of the group since its beginning. In September Gerritt had entered Grade 9 at Aden Bowman Collegiate, where he looked forward to a new high school experience. He was a young man who enjoyed family life with his brother and two dogs, and loved reading and drawing. His happy face will be greatly missed at our meetings. Our Centre and our Youth Group extend condolences to his parents and brother.

Sandy Ferguson

The Membership Updates

by Bob Christie <<christie@sk.sympatico.ca>

Welcome New and Renewed Members (these names did not appear on last month's membership list):

Name	Status	Address	Telephone
Allen, Barry	R	135 Constain Place, Saskatoon, S7N 3K4	(306) 249-0603
Carruthers, Wade	R	2001 Park Ave. Saskatoon, S7J 2B8	
Dean, Chris	R	Box 76, Parkside, S7K 0A0	
Dean, Helen	R	41 - 6th Ave. N., Yorkton, S3N 0X6	(306) 782-3021
Eremondi, Joey	Y	2051 East Hill, Saskatoon, S7J 3C6	
Ferguson, Sandy	R	#11 - 238 Main St., Saskatoon, S7N 0B5,	(306) 931-3184
Genoy, Brian	R	130 Peaker Ave., Yorkton, S3N 1S7	
Gratias, Brent	R	806 - 33rd St. E., Saskatoon, S7K 0S6	(306) 653-2657
Harding, Beverley	R	PO Box 2922, Humboldt, S0K 2A0	
Jensen, Lorne	Y	Box 407, Osler, S0K 3A0	(306) 239-4316
Klimaszewski, Adam	Y	207 Elm St., Saskatoon, S7J 0G8	(306) 477-0263
Kowalchuk, Marla	R	1702 Broadway Ave., Saskatoon, S7H 2B5	
Kuechle, Lloyd	R	3715 Taylor St. E., Saskatoon, S7H 5H4	(306) 477-1299
LaFournaise, Pat	R	525 East Place, Saskatoon, S7J 2Y9	(306) 343-9007
Leppert, John	R	2860 Woodland Place, Bismarck, ND, 58504-8922	(701) 222-3283
Mulder, Donna	R	542 Nesbitt Lane, Saskatoon, S7L 6K9	
Pittman, Lyle	R	#36 - 315 Bayview Cres., Saskatoon, S7V 1B5	

Corrections and added information:

	Reason	Correction or addition
Jim & Barb Young	New e-mail address	bj.young@home.com
John Leppert	E-mail address and scopes	denebobs@btigate.com / 200mm Meade 2080 LX6 SCT, 90 mm Meade ETX
Sandy Ferguson	E-mail address	ferguson15@hotmail.com
Richard Huziak	E-mail incorrect	huziak@SEDSsystems.ca

The Messier, FNGC & H-400 Club

MESSIER CLUB

Certified at 110 Objects: Rick Huziak, Gord Sarty, Scott Alexander, Sandy Ferguson, Dale Jeffrey, Darrell Chatfield, Bob Christie.

Ken Noesgaard	79
Wade Selvig	64
Erich Keser	51
Tyler Cottenie	33
Stan Noble	28
Brent Gratias	26
Terry Nelson	21
Les & Ellen Dickson	20
Ellen Kaye-Cheveldayoff	16
Brian Friesen	15
Andrew Krochko	12
Debbie Anderson (*new*)8

FINEST NGC CLUB

Certified at 110 Objects: Rick Huziak

Dale Jeffrey -(*applying*)	110
Gordon Sarty (*applying*)	110
Darrell Chatfield	103
Scott Alexander	83
Sandy Ferguson	...23
Ken Noesgaard (*new*)	5

HERSCHEL 400 CLUB

Certified at 400 Objects: not yet!

Rick Huziak	341
Jeffrey, Dale	257
Darrell Chatfield	228
Gord Sarty	147
Scott Alexander	70
Sandy Ferguson	...18

*Join the Messier, Finest NGC
and H-400 Club!*

Observe all 110 Messier, 100 FNGC or 400 H-400
objects and earn your
CERTIFICATES!

The first 2 lists can be found in *the Observer's Handbook*. The Herschel 400 list will be available at each general meeting for 50 cents (covers photocopying) or can be mailed out on request to distant members. Each month I'll be posting updates.

IT'S BACK!!!

Get Those Observing Numbers In!

Note Dale Jeffrey's meteoric entry into the H400 Club! I'm sure Darrell will cry 'foul!' and the controversy will run rampant!! Dale is using a computer-controlled Meade LX200 (12-inch) scope, and has raked in over 200 Herschels in the last few months! This demonstrates the raw power of the new generation of motorized scopes and how quickly they can pick up objects. This makes these scopes invaluable for amateur research into variable stars & supernovae searches! Gord Sarty completes his FNGC this month and also makes a move in the H400 with a respectable jump in his numbers!. Congratulations, Gord!

Send observing numbers to
<huziak@SEDSsystems.ca>

Observing Report - Great Deep Sky and Meteor Views

by Andrew P. Krochko, OG Coordinator

The observers group was held on Saturday December 4th. My Mom drove me out to Sleaford. I met up with Perry Johnson and Ross Murray and his son. The sky was incredibly clear but this didn't last. We pulled out Eetook, the club's 12.5-inch telescope, and embarked on a tour of the sky. Our tour objects included M92 in Hercules, the Ring Nebula (M57) in Lyra, beta Cygni, the Dumbbell Nebula (M27) in Vulpecula and M15 in Pegasus. The Andromeda Galaxy (M31) displayed its prominent dark lane and its two companions, M32 and M110. Both Ross and I caught a glimpse of NGC 206, the brightest star cloud in the galaxy. After this we observed Saturn. We could see the Cassini Division in its rings, it had one prominent cloud band on its disk and a few of its brightest moons were visible. Jupiter was a real treat, it showing detail in two of its cloud bands and three of the four Galilean moons were visible. By this time it was starting to become hazy but the Orion Nebula was high enough to view so I turned the scope toward it. It was big and bright and distinctly greenish. It showed a lot of detail despite the haze. Perry, Ross and his son left after this and I showed the Orion Nebula to my Mom who had been reading in the warm-up shelter. After this we left the observatory and drove back to Saskatoon.

After the General Meeting on December 13th, Rick Huziak, Sandy Ferguson, Mike Stephens and

I decided to go out to Sleaford to observe the Geminid meteor shower. Rick gave Sandy and me a ride out there and we saw several Geminids from the car on the way out. When we arrived Mike was already out there and Rick opened up the University's observatory for us. We discovered that this was a great place to observe meteors from because most of the sky was still visible and it protected us from the wind and the headlights of cars on the road. While Sandy, Rick and Mike were counting meteors I used the University's Meade 8-inch to catch M74 before it disappeared below the horizon.

After an hour or so the corrector plate was covered in frost and I joined Rick, Sandy and Mike to observe meteors. Our rate for the Geminids ranged from 19 per half hour to 32 per half hour. Rick checked the IMO (International Meteor Organization) data afterwards and it turned out we were not yet at the maximum rate. Two other showers that were occurring at the same time were the alpha Monocerotids at about 2 - 3 meteors per hour and chi Orionids at about 1 meteor per hour. We saw at least a couple meteors from both these showers. By about 2:30 a.m. Mike left and Rick, Sandy and I observed for another one-half hour before heading back to Saskatoon.

[Ed. The counts that we did this night were reported to the IMO headquarters in Germany to go into the international data base for meteor showers. Among the four of us, we managed to complete 15 one-half hour counts, providing data on more than 45 meteors per person per hour on the average. Our data provides an approximate corrected Zenith Hourly Rate (ZHR) of about 60, so this shower was as good as or better than some recent Perseids showers!]

We Need Presentation Ideas!

by Les Dickson

If anyone has ideas for meeting presentations or speakers, we sure could use them! *What have you done in astronomy lately?* Please come to a meeting soon and give a small talk or a long talk about your experiences! Show off your telescope or equipment! Please contact me if you can give a talk or know of someone who can!

Jan 20th Total Lunar Eclipse

by Rick Huziak

Remember that January 20th is *Total Eclipse of the Moon Night!* This will be a fun eclipse to watch. The first wisps of the eclipse begin at about 8 p. m., but the effect will become first noticeable at about 9 p. m.. By 10:04 p.m., the moon is in a total eclipse that lasts for the next 78 minutes! The moon will turn some shade of dark orange or red, though the exact colour is impossible to predict. Try viewing the eclipse through binoculars or a telescope to see different colours and features as the eclipse progresses. Unlike solar eclipses, lunar ones are perfectly safe to look at with any instrument! See your *2000 Observer's Handbook*, page 117 & 126 for details (and note that the date and times stated are in *Universal Time* - so subtract 6 hours from these times - which also rolls the date back to Jan. 20 local time!). Attend the January General Meeting to find out what events the RASC is planning for this eclipse!

U of S Observatory Hours

The U of S Observatory is open to the general public **every Saturday evening**. Admission is free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear evenings visitors may look through the 6-inch refractor to view Jupiter, Saturn, the moon, star clusters and other exciting astronomical objects. For further information, phone the recorded Astronomy Information Line at 966-6429.

Hours: Jan.- Feb. 7:30 - 9:30 p.m.

Merlin Motors Gives a Sleaford Donation

by Rick Huziak

In a donation assisted by Ted Firman, Gary Bews, owner of Merlin Motors in Saskatoon, has generously donated \$300.00 toward the construction of the Sleaford Observatory. Within the terms of the deal, a 60-mm telescope, provided by Darrell Chatfield, was traded to Mr. Bews for the cash donation. From the cash, \$100 was returned to Darrell as compensation for the telescope, and \$200 is retained for the site, per Mr. Bews request. I would like to thank Gary Bews, Ted Firman and Darrell Chatfield for their cooperation in this donation!

RASC Membership Fees:

Regular - \$40.00 per year

Youth - \$22.50 per year

Notice of the General Meeting of the Saskatoon Centre

Monday, January 17, 2000 at 7:30 p.m.

Room 8313, New City Hospital, Queen Street

Presenting:

Main Speaker - Toby Daytermund

Observing Deep Sky Objects in the Cold - Andrew Krochko

The Perfect Machine, the Corning Glass Factory & the 200-inch Mirror - Rick Huziak

This meeting is open to everyone - members and non-members. There is no admission charge.

SEEING RED - Redshifts, Cosmology and Academic Science by Halton Arp

a Book Review
by Rick Huziak

Apeiron, Montreal, 1998, ISBN 0-9683689-0-5

Is the universe really expanding? Did it all begin with a fantastic 10 kg particle that started the Big Bang? Are quasars really the earliest stage of galaxy evolution and at the edge of the universe?

The entire Big Bang theory hinges on one basic assumption - that redshifts indicate an expanding universe - flying apart at the seams! The "further" we look, the "redder" the universe gets. *But what happens if this basic assumption is wrong?* What if cosmological redshifts do not mean recession velocity at all? Then the universe becomes something entirely different!

SEEING RED - Redshifts, Cosmology and Academic Science is a follow-up to Arp's 1987 controversial bestseller *Quasars, Redshifts and Controversies*. *SEEING RED* provides more than 250 additional pages of observations that do indeed contradict the status quo. The book shows quasars in front of close galaxies, quasars immersed in galaxies and quasars paired across the nuclei of Sb spiral galaxies and Seyfert galaxies as if they have been ejected in opposite directions. There are many examples of quasars, which according to their redshifts *are* at the edge of the universe, are instead attached to nearby galaxies by spiral arms. By conventional thought, these arms would stretch the length of the universe!

In these examples, *redshift = distance* seems not to be working! Arp then shows over and over again that the redshifts are quantized in steps of 37.5 kilometers per second, and that the highest redshifted quasars fall nearest to galaxies known to be ejecting material, and quasars found further out are less redshifted, and those further yet are quantized at lesser values. Arp's amazing conclusion is that quasars are ejected from galactic nuclei at a high redshift, then evolve into *galaxies* of lower redshift! Cosmological redshift is not an indication of recession, but an indication of *age and early physics in these objects*.

So, if quasars *are* nearby (even in the Local Group!), and the universe is *not* expanding, what type of universe are we left with? I'd say we're left with a universe that will upset the closed minds of Big Bang researchers! *This book is a must read!*

The Royal Astronomical Society of Canada
 Saskatoon Centre Incorporated
 Income Statement
 September 30, 1999 and 1998

	<u>1999</u>	<u>1998</u>
Income:		
Membership fees	2,182.50	2,403
Life member grants	57.60	58
Donations	871	5,356
Cypress Hills Star Party	6,576.40	6,356
Member surcharge (newsletter)	233	277
Member surcharge (key)	25	15
Books: Observers Handbook		215
Firefly books		
Heritage books		
Skywatchers Trivia calendar		116
RASC calendars		555
Astrophotography handbooks	total: 1,896.88	75
Advertising	30	75
Raffle and bingo	364.65	4,191
Silent auction	-	600
Telescope rentals	40	230
Interest	8.69	8
Miscellaneous	<u>258.06</u>	<u>213</u>
	12,543.78	21,242
Expenses:		
Fees to National Office	1,552.50	1,507
Newsletters and Postage	650.56	858
Educational Activities	105.17	6,498
Star Party	5,017	-
Observers Handbook	366.64	172
Beginners Observers Guide	122.63	-
RASC calendars	256.80	411
Astrophotography books	60	25
Firefly books	437.35	354
Heritage books	150.66	-
Skywatchers Trivia Calendar		75
Library	11.77	95
Subscriptions	-	53
Office Administration	170.55	843
Insurance	331	288
Equipment maintenance	-	101
Silent auction	-	309
Sleaford	212.01	-

	<u>1999</u>	<u>1998</u>
total expenses	9,444.64	11,589
surplus before amortization	3,099.14	9,653
Amortization	<u>836.09</u>	<u>1,927</u>
Net income	2,263.05	7,726
Fixed assets @ cost:		
Office equipment	2,225	2,225
Sleaford observatory	6,595.50	6,013
Warmup shelter	8,451.07	5,851
Storage shed (included with warmup 1999)	<u>-</u>	<u>653</u>
	17,271.57	14,742
less accumulated amortization	<u>10,666.09</u>	<u>9,830</u>
	6,605.48	4,912
Library	1	1
Equipment	<u>7,326</u>	<u>7,326</u>
Total Fixed Assets and Equipment	13,932.48	12,239
Current Assets:		
Cash	7,704.76	6,849
Telescope fund	2,651	2,651
Raffle account	395.71	395
Inventory books	77.70	170
Deposit Cypress Hills	319	200
prepaid supplies (toner)	-	220
Prepaid expenses	<u>-</u>	<u>213</u>
Total current assets	11,148.17	10,698

Significant Accounting Policies

- a) Observatory and buildings are recorded at cost and are amortized using the straight-line method over 20 years.
- b) Observing equipment is recorded at cost and is not amortized.
- c) Library items are carried in the accounts at a nominal value of \$1, new additions are expensed during the current period.
- d) Office equipment is recorded at cost and amortized using the straight-line method over 3 years.

The Sleaford Observatory

Longitude: 105 deg 55' 13" +/- 13" W Latitude: 52 deg 05' 04" +/- 08" N

by Rick Huziak

Construction - Despite winter finally arriving, construction at the Sleaford Observatory continues. With the hard work of several members, the work planned for the fall was completed to a good enough stage where we can now work almost exclusively indoors. As a result, we have now managed to wire the inside of the warm-up expansion and have begun installing a new breaker box that will be required to power the toilet facility. This involves removing some existing panels and boxes and rearranging things to suit the new room layout. The new area has also been insulated and the vapour barrier has been put in place. In the next few weeks, we will complete the wiring of the toilet facility and get it insulated as well. Everyone should also be pleased that the University has now purchased the toilet (for which we will pay half). It is currently in storage until the room is ready for it. Installation of the toilet is a bit complicated, since we had to come up with a heating plan that would allow for proper composting during cold months; without breaking the heating bill bank! The toilet will also require a small overflow pit to be dug just to the north of the warm-up shelter.

Utilization - And even with the cold weather, the site utilization remains reasonably high. Besides regular observing, there have been two visits to count shower meteors (Geminids and Quadrantids) and an Observers Group meeting. Even Gord Sarty found his way out to the site for his very first time! During the meteor shower counts, we found that the University roll-off building became an excellent wind-protected place to observe from. We rolled back the roof and were able to comfortably count meteors without having to sit in the wind or on the snow!

Visitors - The site has seen some distinguished visitors in the past month. Just before Christmas, Kingston Centre member Tom Dean and Saskatoon Centre member-from-Yorkton Helen Dean (Tom's mom) took their first tour of the observatory. They were both very impressed. Then, in January, 23 students from the Marion Graham Collegiate Grade 11 Outdoors Class with teacher Judy Kiss and Bill came out to the observatory for a sky tour. However, on this occasion, Environment Canada was wrong again! We did manage to get them all into the warm-up shelter!

16-inch Telescope - Yes - there is even progress on this instrument. The mount was moved from the University machine shop in December. It was then sand-blasted, primed and painted at Jackson Sandblasting, then put back into storage until it is needed later this year.

Agreement - Progress is slow, but there are only a few points for Stan, Yannis, Erich and myself to clarify. Then the agreement can go the lawyers to complete. Those who have lost faith can bank on a signing some time this year!

Fundraising - Well, we've got to get fundraising. In order to even begin the work planned for this spring (the construction of the 16-inch telescope dome), we have to raise about \$13,000. So...anyone with a great idea is welcome to speak up, and even more welcomed to help raise the cash. We do have a few

hundred dollars coming in from public talks and we are hoping for some amount of monetary help from a National grant, but we will still fall far short of what is required if further fundraising is not done.

Lethbridge Takes an Interest in Sleaford - SSSP goer Steve Willis of the Lethbridge Astronomical Society has taken great interest in our Sleaford Observatory. What we are managing to accomplish has raised a few eyebrows, and other Centres are watching our progress carefully. Steve's club is in the situation of having to decide if they want to, or can afford to, own their own observatory. They already have existing structures but have to move them to a new location due to leasing problems. Does this sound familiar? Steve and I discussed all of the concerns and decisions we had to make a few years ago when we decided where to move to and how we would manage it!. I hope our experiences help out the Lethbridge club.

Minutes of the Executive Meeting

Tuesday, November 9, 1999

held in Room 8313, City Hospital, Saskatoon, 7:30 p.m.

recorded by Al Hartridge, Secretary

1. Minutes of the last meeting read and approved.
2. All new executive members welcomed to the executive by our new president Les Dickson.
3. A new meeting room has been found at City Hospital to hold Executive and General meetings, but we may be required to find yet another new site after January. A suggestion has also been made to move the Executive meeting away from the time of the new moon so as to not interfere with observing. Also we should prescribe the dates for these meetings in order for people to plan ahead.
4. Finance: the end of the year financial will be published in the next newsletter. Balance at this time is \$8756.05.
5. Insurance covers all our own star nights. Coverage at SSSP is separate at \$500.00. Will increase registration fee by \$2.50 to cover this. The insurance clause in the partnership agreement should also be shown to our insurance person.
6. Fundraising: a letter of thanks to the Colonsay mine still has to be sent. Proposals to other corporations will ready to go soon.
7. Membership: There are 21 temporary members at present. Bob will do stats on the conversion rates.
8. Sleaford Site: -Status of the building activities and the priorities for the new year were described by Bill Hydromako. The aluminum flashing is in place. The addition to the warm up shelter has been opened up. The wiring will be roughed in and an electrician will terminate the wiring at \$25.00 per hour plus cost of the permit. The toilet will be purchased by the University and they will invoice us for our share. The Sleaford site plaque will be supplied by the University.
9. Urgent or immediate concerns and priorities for the new year: At least one in-town star party should be held. A one sheet mail out is needed for the upcoming SSSP because of early interest.
10. Upcoming meetings:
 - Alister Ling will be at the November 15 meeting. He will stay with Rick Huziak.
 - The next general meetings will be on December 13 and on January 17.

- the 30th Anniversary Gastronomy will be at the Tarragon Restaurant on Nov. 20.
11. Regina Centre states that our club still owes them \$300.00 from the last SSSP. This will be paid out to them.
 12. Meeting adjourned at 9:00 pm.

Minutes of the General Meeting

Monday, Dec. 13, 1999

held in Room 8313, City Hospital, Saskatoon, 7:30 p.m.

recorded by Al Hartridge, Secretary

1. Membership renewals are past due, please sign up.
2. Presentations:
 - *The Mercury Transit, Nov. 15,, 1999.* Photographs shown by Bob Christie and Al Hartridge.
 - *The Leonid Meteor Storm* - Rick Huziak.
 - *Seti@home* - Les Dickson.
3. President's Remarks - There will be no executive meeting this month. Darrell Chatfield will put together a binocular observing list. The ASP has 60- and 80-object certificates for binocular viewing.
4. Membership Report: Bob Christie states that there 65 paid up memberships and a temporary list of 20 people. Bob has also distributed some of our brochures to the book stores.
5. Financial Report: Balance approx. \$7960.00. Telescope fund about \$2600.00 and the Sleaford fund just over \$5000.00.
6. Observing Group: Andrew Krochko and his mom and 2 people from Colonsay met at the dark site on Dec. 3. The sky clouded over at 11:00 pm. Next O.G. on Jan. 7 and 8.
7. Library report will be in the newsletter.
8. Next General Meetings: January 17 and February 21.
9. Merlin Motors has made a donation of \$300.00 to the building fund. \$100.00 of this will go to Darrell for his 60 mm refractor which was part of the deal.
10. Beaver Creek has changed the lock for the gate. We will have to get a new key by turning the old one. Who has it?
11. Telescope mount and parts - U of S wants these moved from their machine shop. Bill and Darrell will take care of this.
12. The policy of City Hospital may change after the new year and we may have to find a new place to meet. We still have the room for January.
13. Rick Huziak has sold two gift memberships for Xmas. Suggests that a gift card be developed. He will talk to National regarding this.
14. Kim Mysyk mentioned that a talk at the Saskatoon Engineering Society will be given at noon hour. The topic covers mining scams, if anyone is interested.
15. Les Dickson will do a piece in the newsletter regarding "On-line Astronomy".
16. Meeting adjourned at 9:22 pm.