

Saskatoon Skies

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

Vol. 43, No. 06

June 2012

Two Partial Eclipses of the Sun!



One caused by the Moon on May 20 (Photo by Jeff Swick), and the other on June 5 by Venus (Photo by Garry Stone). It has been almost a decade since we have had an eclipse of the sun in North America. This issue was supposed to be about the partial eclipse of the sun by the moon, but it almost got “eclipsed” by the transit of Venus even though that happened after the deadline for articles. More about the transit of Venus in the next issue of the newsletter.



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To view *Saskatoon Skies* in colour, see our Website:
<http://homepage.usask.ca/~ges125/rasc/newsletters.html>

MEMBERSHIP? JOIN TODAY!

Regular: \$80.00 /year

Youth: \$41.00 /year

Associate: \$33 /year

The Saskatoon Centre operates on a one-year revolving membership. You will be a member for the next 12 months no matter when in the year you join. If you do not want to join at this time, ask to get onto our FREE 3-month Temporary Membership list. You will receive regular mailings of our Saskatoon Skies newsletter and will be invited to participate in Centre activities. Members are encouraged to renew early to avoid disruption in publications. Renew through the National Office at <national@RASC.ca>!

Benefits of Membership in the Saskatoon Centre

- knowledgeable & friendly amateur astronomers
- use of the Sleaford Observatory
- use of the U of S Observatory (after training)
- Saskatoon Skies Newsletter
- Observer's Handbook
- Journal of the RASC (electronic format)
- SkyNews Magazine (bimonthly)
- use of the Centre library
- rent the Centre's Telescopes
<http://homepage.usask.ca/ges125/rasc/telescopes.html>
- discounts to Sky & Telescope Magazine*
- free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!

*New subscription or renewal of Sky & Telescope? Send new info or renewal notice, plus credit card # to Norma Jensen, 128 – 4th Street East, Saskatoon, SK S7H 1H8, or email her at norj@sasktel.net.

U OF S OBSERVATORY

The U of S Observatory is open to the general public every Saturday of the year. Admission is free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear nights, visitors may look through the vintage 6-inch and tour several displays. Current events are recorded on the Astronomy Information Line at 966-6429.

Observatory Hours:	
January-February	7:30-9:30 pm
March	8:30-10:30 pm
April	9:30-11:30 pm
May-July	10:00-11:30 pm
August	9:30-11:30 pm
September	8:30-10:30 pm
October-December	7:30-9:30 pm

SASKATOON CENTRE'S MAIN OFFICERS:

President – Jeff Swick, 373-3902
Secretary – Ron Waldron, 382-9428
Vice-President – James Gorkoff, 644-1343
Treasurer – Norma Jensen, 244-7360

**Bottle Drive &
Canadian Tire \$**
 By Colin Chatfield

If you cannot make it to a meeting but would like to contribute your Canadian Tire money please call me at 934-7046.

**LIGHT POLLUTION
ABATEMENT
WEBSITE AT:
www.ras.sk.ca/lpc/lpc.htm**

Newsletter Editors – Kathleen Houston & Tenho Tuomi

Copy & Collate – Les & Ellen Dickson

Labels & Temps – Mark de Jong

Web Posting – Gord Sarty

Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 100 copies per issue. Saskatoon Skies welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science material. **Articles can be sent by mail in any format to the Centre's mailbox.** Submitted materials can be returned upon request. Submissions may also be sent by e-mail to the editor at e.b.a@sasktel.net as a .doc, no indents, no tabs, one line between paragraphs. Images: .jpg please, no larger than 1 – 1.5 MB, sent by e-mail as attached files.

A separate by-mail subscription to Saskatoon Skies is available for \$15.00 per year. Saskatoon Skies is also posted on our Saskatoon Centre homepage as a .pdf file and can be downloaded free-of-charge. Members may choose to receive the newsletter by regular mail or via the Internet. Articles may be reprinted from Saskatoon Skies without expressed permission (unless otherwise indicated), provided that proper source credit is given. **DEADLINE for submissions** for each month's issue is the 1st of the month. Saskatoon Skies accepts commercial advertising. Please call the editor 306-665-3392 for rates. Members can advertise non-commercial items free of charge.

RASC CALENDAR OF EVENTS

June 16	Observers Group – Dusk, Sleaford Observatory	Larry Scott	934-5801
June 18	RASC Executive Meeting – 6:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
June 18	RASC General Meeting – 7:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
June 23	Ogema Tourist Train and Astronomy Night (non RASC)	Mike Clancy	384-2643
June 28 – July 1	2012 General Assembly - Edmonton	http://www.rasc.ca/programs/ga2012	
July 14	Observers Group – Dusk, Sleaford Observatory	Larry Scott	934-5801
July 20-21	Grasslands DSP West Block Star Party	Rick Huziak	665-3392
July 27-28	Alberta Star-B-Q – Caroline, AB	http://calgary.rasc.ca/starbq.htm	
Aug 4	Prairie Night – Grasslands DSP West Block Star Party	Rick Huziak	665-3392
Aug 11	Observers Group – Dusk, Sleaford Observatory	Larry Scott	934-5801
Aug 16-19	Saskatchewan Summer Star Part – Cypress Hills	http://www.usask.ca/rasc/starparty.html	

For a complete list of club events, please check out: <http://www.usask.ca/rasc/activities.html>

RASC SASKATOON CENTRE GENERAL MEETING

MONDAY, June 18, 7:30 PM

Room 175, Physics Bldg., U of S



Speaker: Stan Shadick

“Investigating Exoplanets with a Small Telescope”

NOTE: There will be an executive meeting at 6:30 PM



No it is not the Rosette Nebula even though it is close to Orion, actually in the Orion constellation itself. This is NGC 2174, an emission/reflection nebula, a dust cloud just above Orion, one of the gems in David Levy's Deep-Sky Gems list. It is faint and half of the size of the Rosette Nebula, and just as challenging to see, but seems to photograph just as well. Photograph taken December 28, 2011 with a Rebel XT camera through a 305mm Orion Newtonian telescope by Tenho Tuomi.

Minutes of the Executive Meeting, May 14, 2012

by Les Dickson

- 1 Meeting called to order 6:39 pm
- 2 Approval of Minutes of the April Executive Meeting – moved by Norma, seconded by Barb
- 3 Report on Activities by Barb:
 - The Farmers Market display put on as part of Astronomy Day attracted about 300 people
 - The Alan Dyer presentation at the Bethlehem High School that evening had about 120 people
 - Barb thanks all of the volunteers who helped out with the activities
- The Partial Eclipse viewing on May 20 will be held at Diefenbaker Park
- The Venus Transit viewing on June 5 will also be held at Diefenbaker Park
- Barb will try to arrange media coverage of the events
- 4 Rick and Kathleen will be attending the Grasslands DSP East Block Starparty
- 5 Meeting adjourned at 7:30 pm

Minutes of the General Meeting, May 14, 2012

by Les Dickson

- 1 Meeting called to order at 7:45 pm
- 2 Approval of Minutes of the April General Meeting – moved by Ellen, seconded by Dick
- 3 Reports:
 - a) Fundraising – Colin: Kelly Branson donated \$14.65 in Canadian Tire money
 - b) Activities – Barb: Reported on recent Astronomy Day activities and upcoming eclipse and transit viewing events (see Exec minutes); Alan Dyer has been paid and we are waiting on an invoice from the Bethlehem High School.
 - c) Observers Group – Jeff on behalf of Larry: Observers Group to meet this coming Saturday
- 4 Jim Gorkoff reported on the necessary changes going on at National in response to changes to the Canadian Not-For-Profit Corporations Act:
 - Our centre will eventually have to bring our corporate structure into line with the changes required by the Act
 - Jim will prepare a summary for the September newsletter
 - There was some discussion on this issue, including the responsibilities of Directors and Officers of the centre under the Act
- 5 Jeff made a presentation on the “World Wide Telescope” and “astrometry.net”
- 6 Les and Rick gave a presentation on the state of renovations at the Meadows campground at CHIPP and how SSSP is adapting to these changes
- 7 Rick gave a presentation on “Life After Messier” about getting involved in variable star observing
- 8 Meeting adjourned

SKY BUYS & MIRROR CELLS

The Saskatoon Centre's Swap and Sale Page

FOR SALE: One 7x50 Newtonian-view straight-through spotter c/w dovetail mount. (No scope-side dovetail, though). \$40 obo. Contact Rick Huziak 665-3392. Proceeds to the RASC.

May 20 Partial Solar Eclipse from the Grand Canyon

by John Leppert



Photos of the 20 May annular eclipse taken at Grand Canyon overlooking the South Rim. They were all taken at the prime focus of an 8-inch Meade 2080LX6 SCT using a Thousand Oaks filter over the corrector plate. The Canon EOS Rebel XT camera body was set at ISO 100. During the course of the eclipse, Anthony Davis (who was also at SSSP 2011) and I took 247 photos at the telescope in cloudless warm skies. Location was approximately 38km (23.6mi) from the southern limit of annularity. Annular eclipse duration 3 min 16.7 sec.

May 20 Partial Solar Eclipse from Saskatoon



Partial Solar Eclipse viewing was held at Diefenbaker Park.

Photo by George Charpentier



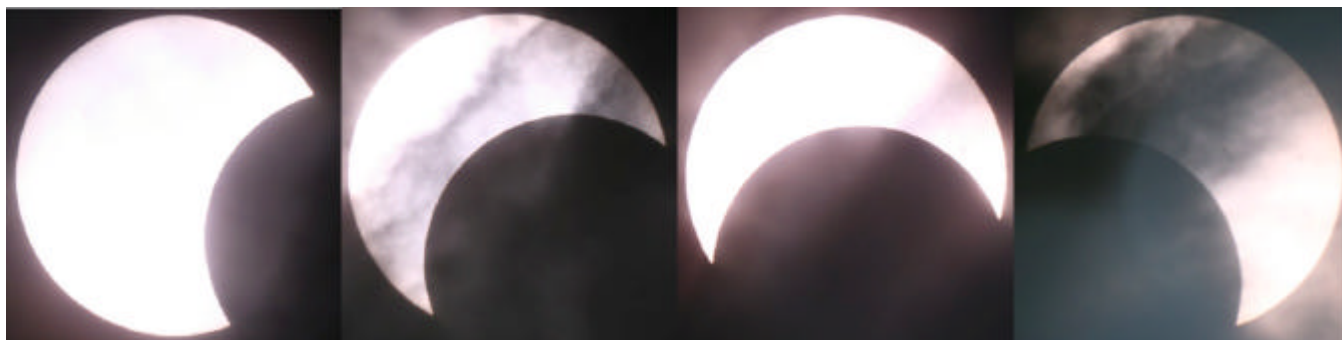
SASKATOON SKIES



Photos by Jeff Swick

May 20 Partial Solar Eclipse from Gardiner Dam

by Tenho Tuomi



Garry Stone and I set up four telescopes with solar filters, and 6 eclipse glasses, at the visitor's centre at Gardiner Dam on Sunday evening. 23 visitors came to look through our telescopes and glasses. It was mostly cloudy, but with enough cracks between the clouds that everyone except the last 5 were able to see and enjoy the eclipse.

Photos by Tenho Tuomi

Venus and Sunspots, oh my!

by Kathleen Houston



The wind was strong and gusting at the top of Diefenbaker Hill at 3 pm, so Rick and I set up along the south side of the hill, next to the trees. Someone must have invited the clouds to this party, to boost the anticipation factor! I had my daughter Marael at my side, Rick at his home made solar scope, and a picnic basket full of food, in case there was time to eat. More scopes and people began to gather. The energy was building.

4h05 pm came, and the clouds thickened. We saw 1st and 2nd contact as live feed from Arizona and other places. Venus meets and kisses the sun, then leaves the disc's edge to slide across the disc. 3rd and 4th

contact to exit the sun, were lost after sunset. Ah, but we were eager when the clouds were thin enough to see the transit in progress! We ate it up! Three teenagers showed up with welder's helmets, others came with their glasses from the solar eclipse, some came later after Stan Shadick's University Observatory experience, still others heard about the event through media or their teacher.



I captained my scope to facilitate the wonder for my visitors. Marael said, "It was awesome, you should have been there!" A child cozies up to a telescope eyepiece on her tiptoes, and expresses awe. A knowledgeable teenager gasps at the site of Venus' perfection. An elderly couple with great effort, walk all the way to the scopes to see this adventure for themselves. Another couple came from Weyburn. These are only some of the stories.



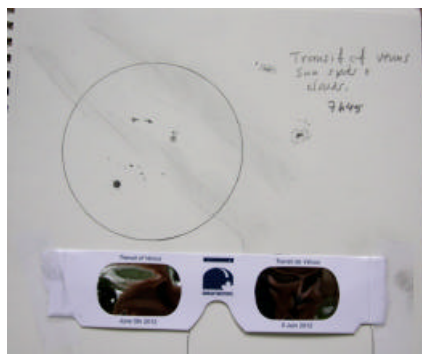
I was trying out my new handy dandy shadow finder, freshly hewn from pegboard, equipped with mini projection screen. The low-tech unit was neatly velcroed on to the 10" truss tube primary mirror bucket. My first attempt at a shadow finder didn't quite work out, and Rick found a creative 30 minutes solution that would make my transit time a breeze.

Finding the sun just isn't that easy when you rely on the shadow of your scope on the ground.

The experience was multi-leveled. We had Alan Dyer's "Tales of the Transits of Venus" in our minds, that inform us of the historical cutting edge science, to time the transit precisely and calculate our distance to the sun. We had Venus as a live feed on the net, with details that would astound Captain Cook! Through solar glasses and telescopes we watch Venus' silhouette of perfection, as she swam her way carefully across the sun's disc. She glides past the garden of sunspots that formed a triangular shape. The clouds swirled and teased us with some clarity from time to time.



Chris Becket, the architect of the solar glasses from Regina, considered a trip to Grasslands, but ended up in Regina. The Regina crew had about 500 visitors. Dave Chapman and Roy Bishop of Nova Scotia went to Winnipeg. In Saskatoon we ran out of our 225 solar filter glasses, and wowed around 350-400 visitors. At any one time we had 8 to 10 scopes, all equipped with line-ups. We attracted 16 temporary members, and sold many star cookies and star finders. Thank you Saskatoon Centre for a very special transit of Venus; scoped and non-scoped alike contributed to giving the



public a unique experience! I would like to thank events organizer Barb for her dedication and vision. It has been a pleasure to collaborate with you!

All Pictures by Kathleen Houston

In Search of Faint Gems

by Tenho Tuomi

Last November I started working on David Levy's Deep-Sky Gems observing list as shown in the RASC Observer's Handbook. The observing progressed smoothly through the winter even though I found the objects somewhat fainter than in the Herschel 400 list. However I have come up to some objects that are going to be challenges for me. I have been trying to make an observing plan of when would be the best time to look for these objects.

The double quasar **0957+561A/B** is the faintest object in the Gems list at magnitude 15.5. The two components of it are separated by 6 arcseconds. In one way it is easy to look for it, for it is circumpolar, and is only 13 arcminutes above the FNGC galaxy NGC 3079 in Ursa Major. It is almost directly overhead from the beginning of December to the end of March, and above 45 degrees for a couple months before and after that.

Galaxy **NGC 91** in Andromeda is the second faintest object in the Gems list at magnitude 13.7. Many sources say that it is the same as NGC 90. With a declination of 22 degrees, it shows best from August to the middle of December.

The Gems list has a couple of faint local dwarf galaxies. The brightest of these is **UGC 5373** in Sextans, at magnitude 11.3. It is fairly large at 5.5x3.7 arcminutes so has a low surface brightness, and has no bright core to make it stand out. With a declination of 5 degrees, it is highest in the sky from the beginning of December to the end of March. This one I should be able to find with some effort.

The other dwarf galaxy is **UGC 6253** in Leo at magnitude 12. This one is easy to search for, since it

is only 1.5 degrees above Delta Leo. However it is very large, 15x12.5 arcminutes, and has no core, so has a very low surface brightness. At 22 degrees declination, it is highest in the sky from the middle of December to the middle of April.

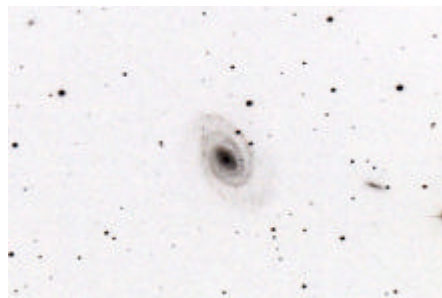
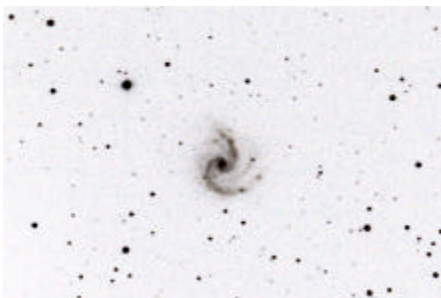
The last two are galaxy clusters. The highest one is the **Castor Cluster** next to Castor in Gemini, containing galaxies IC 2194, 2196 and IC 2197, with magnitudes 12.5 and fainter, up to 15.4 by some sources. At 31 degrees it is highest in the sky from the beginning of November to the end of February, and is above 45 degrees for a month and a half before and after that.

The other galaxy cluster is the **Hydra I Galaxy Cluster** containing galaxies NGC 3309, 3311 3312, 3314 and 3316, with magnitudes ranging from 10.9 to 12.8. What makes this one difficult is its declination of -27, which means that it is never higher than 11 degrees at my latitude. It is highest from the beginning of December to the middle of April.

Most of these objects are visible at their best in winter. I hope that if I look for them often enough next winter, I will hit a night when the seeing is better than average, and find these objects. If that fails, then I will have to borrow someone's bigger telescope.

NGC 91 is at its best during the Saskatchewan Summer Star party. Maybe I will see it from there.

For the Hydra Cluster, a person might have to travel further south. Maybe that's what David Levy had in mind all along, to get us to join him in Arizona for the winter.



Galaxies NGC 5247 and 5364 in Virgo, from David Levy's Deep-Sky Gems list. Photos taken in April by Tenho Tuomi, using a Rebel XT camera and Orion 305mm Newtonian telescope.

Sask Summer Star Party 2012 is Ready for You!!

by Rick Huziak

Hear ye! Hear ye!

Time to organize your summer's end to attend the Saskatchewan Summer Star Party! SSSP 2012 has now opened registration! (Well - actually we did that a month ago, but wanted to sort out some camping details.) The star party is held on the new moon weekend of August 16 - 19!



Our Father Lucian Kemble Keynote speaker is Vance Petriew, discoverer of Comet P/2001 Petriew at SSSP 2001. The comet has now made two orbits around the sun, and realigns with SSSP 2012! Vance will recall the experience of discovery and subsequent mayhem in his talk "KCAB SI WEIRTEP TEMOC". Other speakers are Terry Trees - "Observing the Solar System's Minor Moons" and Mike Clancy, who will give our Under Living Skies lecture. Our under-the-stars clinicians are Jack Milliken - "Sketching Deep Sky Objects at the Eyepiece, a Repeat Performance" and Ron Waldron - "Stars in Your Eyes" star-walk.

All of our popular activities are back: welcome BBQ, solar observing, swap table, photo contest, on-site astro-vendors, astro-art display, 10-year awards, door prizes, banquet, moose and much more! We also see a return of the Star Lite Café this year! Come have a blast!

The new Cypress Hills Observatory in the Dark-Sky Campground is now open and has its first Astronomer-in-Residence - Mark Walker. And the adjoining Yurt now has its donor star wall up; you will not want to miss looking for your own star!

The star party is held at the Cypress Hills Inter-provincial Park, 30 km south of Maple Creek, Saskatchewan. Everyone is welcome. We cater to the entire family, from seasoned observers to ripe newbies and we don't forget about spouses and kids! As a matter of fact, Jen Petriew will run a Kids' Workshop in the Yurt on Saturday morning, while the rest of us catch up on sleep!

We mailed out bunches of brochures to all the RASC and independent astronomy clubs a few weeks ago, so pick one up at your next club meeting! Register early, and decide NOW if you are coming. Please take a moment to ****read our webpage**** regarding Camping in the Meadows if you are camping. The Meadows has been transformed in the last year, and now sports 143 large RV pull-thru camping sites. Each site has power, water, a firepit and a picnic table. If you are tenting, no sweat – there is room for hundreds of tents on the powered sites or in tent overflow. The renovated Meadows now has a new Service Centre with showers and flush toilets, and all outhouses have been replaced with flush toilets and running water. There are also resort rooms, condos and cabins available.

Registration forms are also up on the website so take a look and see what we offer! Join your 275 closest friends at SSSP'12!

SSSP'12 Home Page:

<http://www.usask.ca/rasc/starparty.html>

SSSP'12 Details:

<http://www.usask.ca/rasc/sssp2012.html>

Just print the registration form off, fill it in, and send it off with your cheque. (Sorry - no credit cards). We are also happy to provide walk-in on-site registration. American guests – please see our webpage for easy payment options. Newsletter editors: feel free to put this announcement in your Centre newsletter.

Rick Huziak, 2012 SSSP Registrar

sssp.sk@sasktel.net

or

rickhuziak@shaw.ca

or

tel: (306) 665-3392 evenings

Observing Clubs and Certificates

Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or II, 140 Lunar, 154 Sky Gems or 35 Binocular objects, or Explore the Universe and earn great OBSERVING CERTIFICATES!

MESSIER CLUB

Certified at 110 Objects:

R. Huziak, G. Sarty, S. Alexander, S. Ferguson, D. Jeffrey, D. Chatfield, B. Christie, K. Noesgaard, M. Stephens, B. Hydromako, T. Tuomi, L. Scott, G. Charpentier, B. Johnson, M. Clancy, L. Dickson, B. Burlingham, K. Houston

Norma Jensen	109
Ron Waldron	105
Wade Selvig	75
Garry Stone	57
Bernice Friesen	45
Wayne Schlapkohl	43
Barb Wright	40
Ellen Dickson	34
Jeff Swick	24
Graham Hartridge	9

Chatfield BINOCULAR CERTIFICATE

Certified at 35 to 40 Objects:

M. Stephens, T. Tuomi, M. Clancy, R. Huziak, K. Maher

Jim Goodridge	Up!	11
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FINEST NGC CLUB

Certified at 110 Objects:

R. Huziak, D. Jeffrey, G. Sarty, D. Chatfield, T. Tuomi

Larry Scott	Done!	110
Scott Alexander		97
Norma Jensen		58
Sandy Ferguson		23
Kathleen Houston		23
George Charpentier		13
Mike Clancy		7

EXPLORE the UNIVERSE

Certified at 55 to 110 Objects:

M. Clancy, T. Tuomi, K. Maher, B. Gratias

Wayne Schlapkohl	Done	55
Sharon Dice		31
Jim Goodridge	Up!	26

Isabel Williamson Lunar Observing Certificate

Certified at 140 Objects:

T. Tuomi

Norma Jensen	133
Jeff Swick	29

HERSCHEL 400 CLUB

Certified at 400 Objects:

D. Jeffrey, R. Huziak, D. Chatfield, T. Tuomi

Gordon Sarty	251
Scott Alexander	117
Sandy Ferguson	18
Larry Scott	Up! 14

HERSCHEL 400-II CLUB

Darrell Chatfield	Done!	400
Rick Huziak		246

LEVY DEEP-SKY GEMS

Certified at 154 Objects:

Tenho Tuomi	Up!	146
Darrell Chatfield		70



The Messier, Finest NGC and David Levy's Deep-Sky Gems lists can be found in the *Observer's Handbook*.

The Explore the Universe list is available on the National website.

On-line Messier and Finest NGC lists, charts and logbooks: <http://www.rasc.ca/observing>

On-line Herschel 400 List: <http://www.astroleague.org/al/obsclubs/herschel/hers400.html>

Binocular List is at: http://homepage.usask.ca/%7Eges125/rasc/Chatfield_Binocular_List.pdf

Copies of the Isabel Williamson Lunar Observing Program Guide can be purchased at meetings.

Program details can be found at: <http://www.rasc.ca/williamson/index.shtm>

Observers Group

by Larry Scott



For a pleasant change of pace the skies for the May 19th Observers Group were better than expected. After several cloudy days and nights the sky cleared and treated six members to a very nice evening. Strong afternoon winds dropped to a very light breeze and with the temperature falling to near freezing the bugs were not an issue. Early on we had some nice spiky curtains of aurora to watch. These did

not last long and did leave a residual glow, but the skies to the south were clear with decent transparency.

Next Observers Group is scheduled for June 16th with Moonless evenings from about the 13th to the 23rd. Following that the July Observers Group will be on the 14th with moonless evenings from the 13th to the 25th. These are both excellent opportunities to mow some grass and swat some mosquitoes!