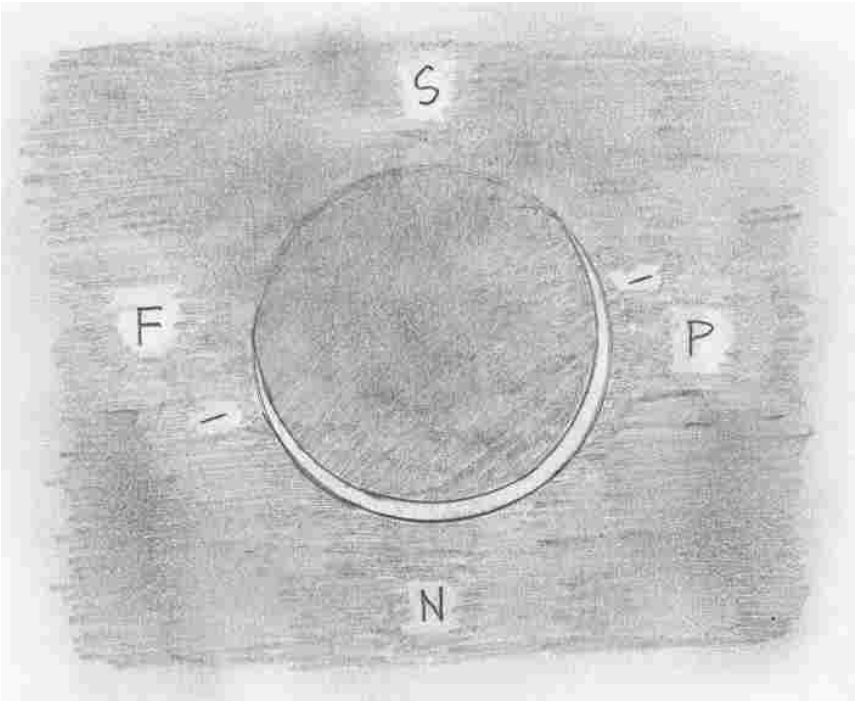
Saskatoon Skies

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

Volume 33 **November 2002** **Number 11**



This Halloween, Venus was at inferior conjunction. Is there a better excuse to take your telescope to work? Sitting just 5-1/2 degrees below the sun, Venus is both a beautiful and dangerous target. However, with proper safety precautions, you can witness one of nature's truly beautiful spectacles and not set your tube on fire! See the story on page 8. Drawing by Rick Huziak, Oct. 31, 2002, 1:00 pm.

In this Issue

Saskatoon Centre

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Membership?

Regular - $52.00 per year
Youth - $27.50 per year

It's never too late to join!

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 membership coordinator, Bob Christie, or renew through the National Office and let Bob know that you did!

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 2003
- The Journal of the RASC (bimonthly)
- SkyNews Magazine (bimonthly)
- use of the Centre library
- discounts to Sky & Telescope Magazine
- discounts of Sky Publishing merchandise
- discounts to Firefly Books
- free, no cost, no obligation, 3-month temporary membership if you don't want to join right now!

U of S Observatory Hours

The U of S Observatory is open to the general public every Saturday in Nov. – Jan. from 7:30 p.m. to 9:30 p.m. Admission if 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 the moon, star clusters, Jupiter, Saturn, and other exciting astronomical objects. For further information, phone the recorded Astronomy Information Line at 966-6429.

About this Newsletter

Newsletter Editor - Richard Huziak
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PDF & Web Posting – Gord Sarty

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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 articles. 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 - preferred as **plain unformatted ASCII text files without line breaks**. Images sent by e-mail should be attached .GIFs, .TIFs .JPGs or similar. Send e-mail submissions to the editor at <huziak@SEDSystems.ca>. 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 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 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.

Bottle Drive & Canadian Tire $

By Darrell Chatfield

Please remember our on-going bottle and now Canadian Tire money drive to fundraise for the Centre. Bring them to the November meeting. I will collect them after the meeting concludes. If you cannot make it to the meeting, but would like to contribute, please call me at 374-9278.

RASC Calendar Happenings			
Date (2002)	**Event**	**Contact**	**Telephone**
Nov. 15	**Youth Group Meeting,** Nutana Collegiate, 7 p.m.	Tyrone Klassen	652-4599
Nov. 18	**Executive Meeting,** Rm. 8313, City Hospital, 6:30 p.m.	Les Dickson	249-1091
Nov. 18	**General Meeting,** Rm. 8313, City Hospital, 7:30 p.m.	Les Dickson	249-1091
Nov. 18 - 19	**Leonid Meteor Shower Peak (**after 2 a.m. local time & moonlite)	Rick Huziak	665-3392
Nov 28, Dec 5	**U of S Extension Div. An Intro to Star Maps & Telescopes**	U of S Ext. Div.	966-5593
Dec. 1	**Venus 2^{o} S of crescent moon** (same phase!) - 6:00 a.m.	Handbook	
Dec. 13	**Youth Group Meeting,** U of S Observatory, 7 p.m.	Tyrone Klassen	652-4599
Dec 13 - 14	**Geminid Meteor Peak**	Rick Huziak	665-3392
Dec. 16	**General Meeting,** Rm. 8313, City Hospital, 7:30 p.m.	Les Dickson	249-1091
2003	**Youth Group Meetings** – Jan. 10, Feb. 7, Mar. 14, Apr. 11	Tyrone Klassen	652-4599

Notice of the General Meeting of the Saskatoon Centre

Monday, November 18th, 2002 at 7:30 p.m.
Room 8313 City Hospital

Presenting:

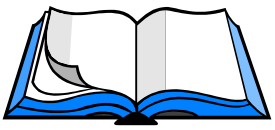
Darrell Chatfield – Astronomical Filters
Gordon Sarty - Reading Star Maps
Rick Huziak - Tomorrow Morning's Leonid Storm!

Executive Members – please attend the Executive Meeting at 6:30 p.m. in Room 8313.

Saskatoon Centre Books 4 Sale

The Saskatoon Centre has purchased a number of Sky Publishing & Firefly Books for SSSP sales, and these are available to general members to purchase at discount rates! Contact Les Dickson or `dicksonl@sasktel.net` to see what is remaining from the SSSP and to see if any pricing discounts apply. Prices include GST, shipping and handling.

- Touring the Universe thru Binocs (1) - $54.00
- Build Your Own Telescope (1) - $42.00
- Cambridge Star Atlas (1) - $40.00
- Astrophotography (G.N.Patterson) (lots) - $8.00**
- 2003 Skywatcher Calendar (5) - $16.00



- RASC Stickers - $0.50**
- Other Worlds (1) - $7.00**
- Extraterrestrials (1) - $6.50**

All prices include GST, by NOT shipping.
Prices at COST marked ** are reduced to clear.

REMEMBER - YOU CAN SIGN UP TO GET THIS NEWSLETTER ON THE INTERNET INSTEAD OF BY SNAIL-MAIL. CURRENT ELECTRONIC SUBSCRIBERS SAVE US OVER $320 / YEAR IN MAILING COSTS.

Gastronomy Anyone??

We're planning one for the end of November. Stay tuned for an announcement about the date.

A Message from the President

by Les Dickson

Last meeting we had our Annual General Meeting and Elections for the Executive for 2002-2003. I want to thank all of those who volunteered to put in the time and effort that is required to make our—your—Centre work. They are: Alan Hartridge, Barb Young, Sandy Ferguson, Rick Huziak, Ellen Dickson, Tyronne Klassen, Bob Christie, Bill Hydomako, and Darrell Chatfield.

A number of positions were not filled last month. We are still looking for people to fill the positions **of Activities Coordinator**, **Observing Group Coordinator**, and **Publications/Sales Coordinator**. The nominations for those positions are still open. If anyone out there would like to help out in any of those positions, please contact me or any other member of the Executive.

We also nominated a number of people to positions as **Councilor**, a position that really is a way of getting new people on the Executive and giving them some experience in running the Centre. Many of these people were not in attendance at the meeting, so we left the nominations open for now, and will revisit them at the next meeting.

We have some small projects that we are looking for someone to take on, perhaps one of the new councilors. We would like a donation "jar" constructed to look like a telescope ("light bucket"?) that could be placed out at coffee time and at public star-nights to collect donations. We also need a proper display case for the model of the Sleaford site that Ken Noesgaard constructed for us two years ago. If you might we willing to take these projects on, please let us know.

A former member of the Centre, Gary Brett, now publishes "*TV Wor*ld" magazine, and *"Good Times News*" in Saskatoon. He has offered us room to run a regular astronomy column in one of his publications. If you might want to take this job on and are willing to put in the considerable time it might take to do a good job, please contact me or Rick Huziak for more details.

See you at the next meeting. Until then, clear skies.

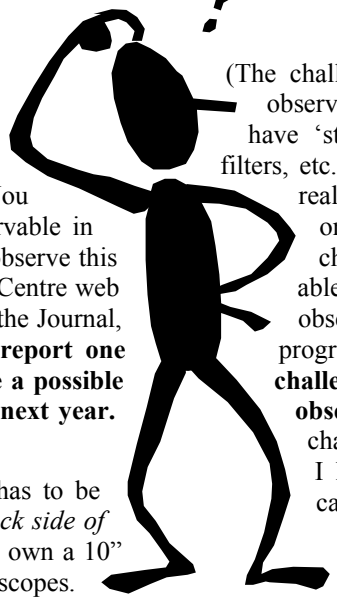
The Great Canadian Observing Challenge

Richard Huziak huziak@SEDSystems.ca

Here's the challenge:

You observe at least one variable star and report that estimate to the American Association of Variable Star Observers (AAVSO) within the next year. (Sept 16, 2002 – Sept 15, 2003).

My goal is to have 100 Canadian observers showing up on the AAVSO Annual Reports for 2002/2003. The program is intended to promote observing, and variable star observing can be done under such a wide range of conditions that it is a good place to start. More on this below.



My Commitment

If YOU observe and report ONE variable star to the AAVSO**, I will match that observation with a challenge from you.** You may challenge me to observe anything observable in the sky in any astronomical category. I will observe this object and I will describe it on the Saskatoon Centre web page, on the *RASClist*, in our newsletter or in the Journal, as is most appropriate. **You observe and report one variable star as a minimum. I will observe a possible 100 challenge objects in response over the next year.** That's fair, isn't it?

Here're the other rules: The challenge has to be reasonable! I will not accept *"observe the back side of the moon*"! It has to be within my means – I own a 10" Dobsonian, but have access to a few larger scopes. (The challenge doesn't have to be telescopic). I can observe from the city or from a very good dark site. I have 'standard' accessories such as color and OIII filters, etc. I do NOT have a CCD camera – that's not real observing anyway! I'd prefer to keep it more on the simplified side anyway, since any challenge given to me I'd like to see others be able to do as well –as a challenge! Get me to observe your favorite stuff or participate in your program for observation. **I don't mind a challenging challenge! The point is to promote observing of all types!** I will accept your challenge anytime, but I may not complete it until I have confirmed that you have reported. It's called **incentive!**

…….. more

Crazy Am I?!?!?

No! Not at all. This challenge began as a response to a lot of whining on the RASClist (the RASC's web discussion list) about a whole lot of things that had nothing at all to do with what astronomy is all about. Some observers were even shunned because they wanted to leave the RASClist since there wasn't much for observing reports going on! *I don't blame them!* **In my opinion, the "all about" is LOOKING UP!** Of 4000 or 5000 members in the RASC, there are precious few observers, and far more members with a mountain of excuses why they don't, won't or can't observe! ***Horse hoggies!*** Getting into an observing routine is easy if you have a set goal!

Why Variable Stars?

Observing variable stars is fun, easy and addicting. You can observe just a few along with all the other things you observe, or you can get right into them and forget that deep sky objects even exist! Not that deep sky objects are bad – I love them – but there seems to be the perception by many observers that observing can only occur during clear, dark skies and from a dark site to boot, and that what is observed has to be fuzzy! In this way, skies are never clear or dark enough, the moon is always in the way, and it is too far to drive to the dark sight! *How convenient* – **a mountain of excuses why not to observe!** Well, you occasionally make it to the dark site in spite of this, then the moon rises, or it hazes over or….or…. Most observers then just pack up and go home. **Variable star observers ADAPT to the changing conditions** and keep observing until the sun rises!

Variable stars do not rely on dark, moonless conditions. In fact, I do 90% of my variable star observing in my light-polluted backyard in the city, and 60% of this time is with the moon up! Variable star observing is so much fun that **people find themselves going out a few nights a WEEK** – not once every new moon as the deep sky guys! (Again – I'm not knocking deep sky guys – just lack of observing)! Variable stars also require an extreme minimum of equipment. You'll need eyes and/or binoculars and/or a telescope, warm clothes, a red flashlight, and some standard variable star estimating charts. More than 3600 of these charts are available *FREE OF CHARGE* from the AAVSO's website at www.aavso.org If you do not have access to the Internet, give me a call, and I will send you some starter charts.

It is so simple that you can begin tonight! Get some charts – download these or get a friend to do so, find the field and make an estimate! Beta Lyrae, delta Cephei and RZ Cas are excellent first targets. There are maybe 50 naked eye variable stars, hundreds of binocular variables and thousands of telescopic ones. Estimates are NOT greatly affected by moonlight or light pollution***. If you can see the star, you can estimate how bright it is!***

AAVSO Standard Charts

Always use the magnitudes of comparison stars as given on the AAVSO charts (even if you have a source of magnitudes that differs from the charts). **Standard is standard – use the charts!** To make an estimate, find the variable in the field. Find one comparison star brighter than the variable and one that is dimmer than the variable, then **interpolate** a brightness somewhere between the two comparison stars. For example, if the variable is 1/3 brighter than a star of magnitude 8.6 and 2/3 dimmer than star of magnitude 7.4, then the estimate will be 8.2 magnitude. This is as easy as it is! Make estimates to 0.1 magnitude. Note that AAVSO charts have the decimal removed for comparison stars' magnitudes so that we don't confuse the decimals for stars! Therefore, 82 means 8.2 magnitude, 106 means 10.6, etc.

Reporting to the AAVSO

The AAVSO web site has many utilities for reporting your observation(s). These include a web-based data entry program, a DOS-based program, and good old pencil and paper. Check out the site for details. **ANYONE CAN REPORT OBSERVATIONS TO THE AAVSO – YOU DO NOT HAVE TO BE A MEMBER OF THE AAVSO TO REPORT!** You will need to request an **observer code** from the AAVSO before you report. When you get this far, I will help you with instructions!

Why Report?

As an amateur astronomer, you get to do you collect will be used by professional and amateur researchers all over the world. They rely on the pool of 656 AAVSO observers to collect the estimates on over 10,000 stars! Your observation might create a flurry of activity at a large observatory and may even trigger an orbiting observatory into action! Mine has! ***Why only ONE estimate?*** Well, one is a start, and it is a great improvement over zero! Last year, the AAVSO had 131 observers who reported fewer than 10 observations each. However, this amounted to 542 observations that the AAVSO otherwise would not have had! Likely, if you've observed one, you will likely return to it again, or observe similar stars, at least now and then!

The Challenge So Far

See the stats table below for number of RASC members across Canada that have taken up the challenge. Many of these people have reported to the AAVSO already. Believe it or not, only 24 Canadians (of more than 10,000 RASC or independent amateurs in Canada) were observing and reporting variable stars to the AAVSO before this challenge! As of this writing (Nov.

4, 2002), 31 newbie observers have already committed to make observations of variables, and at least 8 of these people have already submitted to the AAVSO. I'm getting the message across! However, that leaves me 45 people short of the goal of having 100 Canadians on the AAVSO annual report! It's time for me to recruit our own Centre. **It is for YOU to volunteer a small portion of one night of your observing schedule** to get me off your back! Our Centre has an advantage over all other Centres in Canada – I will gladly tutor any new variable star observer. And, this will not be the only challenge – it is only the beginning!

My Challenge?

I am receiving challenges! My results will be posted in the table below on the Saskatoon Centre website. Any sketches or drawings I make will be posted on this web site.

Contact Me

E-mail: Huziak@SEDSystems.ca Evening telephone (306) 665-3392 (rarely there – I'm ***observing!*** – but the answering machine will talk to you)! Let me know if you accept the challenge. If so, then keep me informed of your observer initials and when you have reported. And don't forget the counter-challenges!

Observers Statistics

Last Update:	**4 Nov 2002**
Number of Newbies:	**31**
Number of Newbies that have reported to the AAVSO:	**8**
Number of Oldbies (that observed for the AAVSO before this challenge was put out):	24
Number of Oldbies that have reported to the AAVSO:	23
SHORTFALL TO REACH 100 CANADIAN VARIABLE STAR OBSERVERS:	**45**

Challenges That I Have to Observe

From	Challenge	Status	References
Geoff Gaherty	Do a set of meridian timings for Jupiter features for the ALPO	waiting for Jupiter to rise	
Ken Lemke	Sketch an open cluster I haven't seen before and note the colours of the stars. Sketching makes you look for the details!	Done	Drawings are up on the web

The Planets this Month - November 2002

By Murray D. Paulson, Edmonton Centre, RASC

Last month's Mercury apparition was fairly decent for being so close to the sun. I saw it a couple of mornings after our meeting in October. By the time you read this, Mercury will be closing in on the sun for its November 13th superior conjunction. It actually will be occulted by the sun at 11:45 a.m. on the morning of the 13th, and will come out from behind the sun 19 hours later, at 6:50 a.m. on the morning of the 14th. This is the reverse of the situation witnessed almost exactly 3 years ago when Mercury transited the sun. But no one will be witnessing this event. Mercury spends the next month and a half moving out to its next greatest eastern elongation.

We haven't seen Venus for several months now, but since its conjunction with the sun on October 31st, it has literally leapt into the morning sky. Remember, this is only a few weeks after it sat directly under the sun, but now it rises an hour and a quarter before the sun! At magnitude -4.3 it is a beacon in the morning sky. If you examine it with binoculars, you will be able to see its slender 58"-wide crescent. Fred Schaaf mentions (in an article in the November *Sky and Telescope*) that you might be able to see the slender crescent naked eye by looking through a 1mm to 2mm pinhole to reduce the glare of the planet. On the morning of December 1st, Venus is joined by Mars and a thin crescent moon, all in a 3-degree space. Conjunctions like this one are rare and beautiful. The earthshine on the moon will add to the highlight. This scene will make for an excellent photo opportunity. By early December Venus will fatten up a bit and shrink to a 42" crescent. Venus is now brilliant -4.7 magnitude and Mars shows as a diminutive magnitude 1.7, 4.2" disk. Venus and Mars stay within 2 degrees of each other until mid- December.

Jupiter is prominent in my morning sky. We are coming up to an interesting Jupiter season and some of it has already started. Jupiter's moons orbital plane just happens to line up with the Earth and sun over the next 6 or so months which means that we will be treated to mutual events between Jupiter's moons. They will occult, eclipse and transit each other over the next while. I am sorting out the best of the events and will publish a catalog of the most interesting of them in the upcoming issues. You can go to the URL listed at the end of the article to get a complete list of events at your particular location. Just

follow the cues. Check through the *Handbook* for a list of regular upcoming satellite events. By Early December, Jupiter will rise just after 9 p.m. and shine at magnitude -2.4. It shows a 42" disk in the telescope.

Saturn has become prominent in our evening sky, rising just before 7 p.m. It shines at magnitude 2.1 and shows a 20.1" disk in the telescope. It rises early enough in the night sky to be an easy observing target. The rings are tipped up at an angle of 26.3 degrees with respect to our line of site. This goes for the plane of the moon's orbit as well. You may be able to see Cassini's division above the south pole of the planet. Take a look. By early December, Saturn will brighten to magnitude 1.9 and expand to 20.5". It rises about 1/2 hour after sunset and now sits high in the early evening sky. The rings will continue to open up by another small fraction to 26.5 degrees.

Pluto is in conjunction with the sun on December 10, and sits 9.2 degrees above the plane of the ecliptic. No, don't bother trying to see this one like you did on Venus! Till next month, clear skies and lots of Leonids.

Galilean satellite mutual event site...
www.bdl.fr/ephem/ephesat/en/visiphemu_formulaire_eng.html

(There are no numbers in the address! I confused the l with a 1 and spent quite some time spinning my wheels!)

Sleaford Open House, October 26, 2002

By Darrell Chatfield

Our annual open house sponsored by the R.A.S.C. and the University was held on this night. Even thought it was cloudy and quite cool, we have learnt to anticipate a crowd nonetheless. Our club decided to hold a B.B.Q. at the site. That got started around 6 p.m. Al and Les brought out their portable BBQs so we could all take turns cooking our own items. Why is it that hot dogs and hamburgers always taste better outdoors?? Anyway, we waited for Stan Shadick to bring his cavalcade of cars out to the site. So at roughly 8 p.m., he arrived, followed by one car. We were not disappointed, because the 12 that were there were very enthusiastic. Half of the participants were a boy scout troop from Humboldt, who Mike Stevens and Rick had previously given a lecture to. Also present was Carol Blenkin, formerly of TV fame and a past member. The U. of S. students that came out to help showed the group their fine facility and telescopes. The small crowd even wanted the roof rolled back! After their informative talk by the U. of S. students, the group came to tour the warm-up shelter. I had the pleasure of showing Carol and her friends how to use a star map. I was quite impressed with the knowledge of the sky that they possessed.

Later, we all moved into the old school house for a very informative and enthusiastic slide show by Rick. Later, we all enjoyed a hot drink and cookies.

The evening was a success, even though the sky did not cooperate at all. I would like to thank the following people for helping our visitors feel very welcome: Stan, Rick, Les and Ellen, Jim and Barb, Al and Graham, and the U. of S. students. See you at the next open house!

Don't Miss the Leonids – Despite the Moon

By Rick Huziak

If you witnessed last year's Leonid meteor storm that produces an average of 1 – 2 meteors **per second** for the entire night, often with 3 or 4 meteors in the sky at once, or if you did *not* witness that display, or if you have never seen meteors at all, you will still want to see this year's Leonid storm. Even though very high storm rates are predicted, this will be tempered by a very poorly placed (i.e. above the horizon all night) full moon. Current predictions are for a double-peaked storm – similar to last year, but due to meteor streams put down in different years of Comet Temple-Tuttle's passage.

Meteors will be visible just before the radiant (in the sickle of Leo) clears the horizon, so begin looking at about 1 a.m. on November 19th. The actual peaks are predicted to occur on **November 18, between 9:53 p.m. and 10:07 p.m. CST,** with the radiant way below the horizon but visible from Western Europe. Predicted rates range between 2000 and 4900 per hour (about 1 per second). It will be produced by debris left by the comet during its 1767 return. Seven hours later, the night-long storm peaks on **November 19, between 4:13 a.m. and 4:44 a.m. CST.** This favors the Americas. Predicted rates range from 5700 to 10,000 per hour (2 to 3 per second) as Earth plows centrally through the debris left by the comet during its 1866 return. Remember that the full moon will eliminate all but the brightest meteors, so pick a place to watch behind a building that will shield at least some moonlight. Staying in the shadows will help you dark-adapt a bit. The Leonids has been known to produce fireballs, or even to have short fireball phases, so despite the moon, surprises may occur with this shower.

And if you would like to do extremely useful work, a meteor counts should be done as single-observer counts only. Very small intervals of 1- 5 minutes should be used (depending on the moon's effect on numbers), and times should be *accurate* to the nearest minute. It will be more important than ever to record you limiting magnitude accurately with the moon as bright as it will be. **Use the chart of Ursa Minor** provided on page 5 of the Dec. 2001 **Saskatoon Skies**, or page 56 of your 2002 *Observer's Handbook.* Future predictions are dismal, and the storm may not occur again in our lifetimes.

NEWS NOTES

Brightwater Retirement
By Rick Huziak

I'd like to announce my official retirement from speaking at Brightwater School Camp. After 104 presentations, I've decided that I need a change so that I can get to a million other astronomy projects I've been saving up. The Brightwater teachers still need astronomy resources, so speaking engagements are still desired if someone else in the RASC would like to take this up. You can speak as seldom or as often as you want. All talks are evenings, beginning sometime between 7 p.m. and 9:30 p.m. and last about 1-1/2 hours with telescope time, less if it is cloudy. To aid in future work at the camp, Brightwater arranged to build a fine 10-inch f/5.6 Dobsonian and bought a set of Plossl eyepieces for it, so you don't have to haul your own scope if you don't want.

The Public School Board runs up to two camps per week between September and October, and March through May. An honorarium is paid for each talk, typically around $25, though the fee is not set in stone. (Some are freebees, some net a little more pay). To date, money raised through talks goes has gone toward the Sleaford Observatory Fund or the general account.

I can easily get together a new slide show for a new speaker and can do basic and on-site training. As a possibility, I will also be meeting with camp director Marcia Klein to discuss possible teacher empowering astronomy workshops that might compliment Brightwater RASC visits.

Anyone interested in talking at this camp should call me at 665-3392.

Astronomy U of S Extension Class

Stan Shadick is offering a two-night extension class on basic, beginning astronomy on November 28 and December 5. Topics that will be covered are basic astronomical concepts, reading charts, the sky coordinate system, basic observing. The second night will be dedicated mostly to choosing a telescope and accessories and will be assisted by Richard Huziak. These two 2-hour sessions are mostly suitable for the general public, and may be too basic for those with a partly-developed interest in astronomy. For more information, contact the U. of S. Extension Division at 966-5593. Cost is $25.

The Amazing Inferior Conjunction of Venus

by Richard Huziak huziak@sedsystems.ca, "Murray Paulson" mpaulson@bigbangwidth.com, Bruce McCurdy bmccurdy@telusplanet.net, edited from the RASCals Discussion List RASCALS@ap.stmarys.ca
October 31 - November 4, 2002

Rick Huziak – "I just came in from the cold this October 31st. (It was - 8oC today with a cold wind to boot). I spent the lunch hour watching the inferior conjunction of Venus - AWESOME ! To accomplish this, I opted to stop down the 10" Dob to 2.5" to avoid burning holes in the side of my tube from the off-axis image of the sun, only 5 degrees away. (A long dew cap was not possible due to a fairly strong wind). This was my closest-to-the-sun-yet attempt. I used the waning moon to precisely focus, and I TAPED the focuser in place to avoid accidental defocusing. Daytime focus must be precise, or images simply blur into the bright background sky and you'll never find your planet. I then blocked off the front of the spotter to avoid other sun problems (ie. vaporization of crosshairs & accidental blindness - not a good thing!). I then used my protractor tool to offset 5 degrees south of the sun. Moving the tube left and right a degree or so, I ended up finding a beautiful little crescent (actually quite big compared to anything else in the sky!) about 1 degree to the right of my first offset. The crescent was still 'over the top' only about 2% or 3% lit and just a tiny little hairline! You could follow the points about 220 degrees around the planet, and I'm fairly certain I could see the dark side. (It is a different colour than the surrounding sky). However, though the sky is very clear today, we have a lot of heat turbulence, since Venus is only about 10o off the horizon and over the U of Sask. campus from my parking lot observing area! Over the 40 minutes I watched this event, the crescent could be seen rotating very slightly more around the planet. My observation spanned from 12:30 pm to 1:10 pm CST. Still AWESOME! I also showed this to about a half-dozen employees returning from late lunches. If you didn't catch this one, you can try for the next few days, though the crescent will be rotated around much more".

Murray Paulson of Edmonton observed the inferior conjunction a few days later and describes the experience. "I saw Venus on Friday at lunch time. I used my Nikkor 300mm camera lens with the 2X teleconverter mounted on my mini-mount/camera tripod. This worked extremely well because I could stop the lens down to f/22 and project the sun on my hand to align the scope to the sun. I then dropped the scope 5 degrees using a degree template mounted on the mini-mount and swung it over the 3 degrees preceding the sun that Earth Centered Universe said Venus would be. I then opened up the aperture to f 5.6. Wow! It was there, and beautiful! What a sight! I was using a 13mm Plossl which gave me 45 power - just about perfect image scale. I was impressed that I could do this without any shade over the scope or without an extended lens hood. Nikkor lenses are well baffled! But the image of that thin crescent on the blue of the sky was just gorgeous. I wish I could have drank it in at length, but a contrail drifted through and it signaled that I should go back to work. Dang! It

was a balmy 5o to 10oC in the sun in front of the building. My thoughts strayed to '04. Hmmm, warm ....." [Plans are to see the next Venus inferior conjunction from Greece, where Venus will actually transit the solar disk in June '04 – Ed]

Bruce McCurdy, also from Edmonton, was not to be outdone. "We looked at Venus with the 7-inch Starfire refractor at the Odyssium (old Space and Science Centre) Observatory on Saturday. It had moved a little bit (retrograde motion!) since inferior conjunction Thursday, but was still only about 6° or 7° away from the Sun and presented a fabulously thin crescent that was clearly something over 180° from cusp to cusp. I would have put it at 200° or 210°. It was also something over 1 minute of arc and appeared exceptionally large, compared to many other observations of the same object through the same telescope at the same magnification(s).

It was also interesting to compare it to the waning crescent moon, two days from new. The lunar crescent was also quite slender, but from cusp to cusp (in daylight in the finder) appeared to be not much more than 120°. That's because the moon has the same problem as a McDonald's restaurant (no atmosphere).

Because it was beneath the (low) Sun, Venus became progressively more difficult to see not long after it transited (the meridian!), but it was exceptionally nice for an hour or so. I would have preferred a longer look but other distractions intervened.

My personal record for "closest to the Sun" was on June 26, 2000. This was 15 days after superior conjunction, when Venus was actually occulted by the Sun (see my article in the Dec. 2000 JRASC about the relationship between this event and the upcoming transit of Venus). In a fortnight Venus had moved just over 4° from the Sun, mostly in R.A., which made it fairly straightforward to sweep up (using extreme caution). This was my first day of my summer gig at the Observatory, so I did it because it was there. Venus was, at 1.7 A.U., about 6 times its current distance from Earth, so tiny (~10") but full and bright. It was still a fairly difficult observation in a *very* bright sky, and dangerously close to the Sun if somebody bumped the scope, so I didn't share it with the public or try to sweep it up again for another couple weeks. But I did see it for myself.

I also made interesting observations of Venus right at the inferior conjunctions both before and after, which were respectively 8° south (August 20, 1999) and north (March 30, 2001) of the Sun. On both occasions I observed it telescopically around midday, and in the latter case I observed Venus with binoculars both before sunrise and after sunset on the same day; similar observations were described to me by Lucian Kemble (who first did it in 1977) and Russ Sampson (1985). Dave Chapman wrote about this in JRASC in 1986, for those who keep their old "small" Journals. (pp.336-43).

Perhaps the best opportunity to observe Venus close to the Sun occurred, not coincidentally, eight years ago this week. It was in inferior conjunction very close to its current location on November 2, and there was a total eclipse of the Sun seen by a few lucky people in South America within a few hours of the conjunction on November 3, 1994. Many people saw Venus naked eye, only five degrees from the Sun. I heard of no reports of anybody using any of their valuable minutes to observe Venus telescopically during the eclipse, but it occurs to me that would have been a nearly unprecedented opportunity to observe the extended cusps, with an extreme phase perhaps displaying an asymmetric ring of sunlight diffracted by the Venusian atmosphere."

ISS Evening Passes - Nov. 11 to Dec. 18 - By Les Dickson (from www.heavens-above.com)

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
02 Dec	0.7	19:19:53	10	SW	19:22:09	33	SSW	19:22:09	33	SSW
03 Dec	0.9	18:21:58	10	SSW	18:24:38	26	SSE	18:26:08	18	ESE
04 Dec	-0.3	18:58:55	10	WSW	19:02:00	53	SSE	19:02:15	52	SE
05 Dec	0.4	18:00:38	10	SW	18:03:34	36	SSE	18:06:01	13	E
05 Dec	1.0	19:36:16	10	W	19:38:15	35	WSW	19:38:15	35	WSW
06 Dec	-0.5	18:37:40	10	WSW	18:40:49	67	SSE	18:41:55	36	E
07 Dec	0.0	17:39:05	10	SW	17:42:09	49	SSE	17:45:13	10	E
07 Dec	-0.4	19:14:55	10	W	19:17:44	68	WSW	19:17:44	68	WSW
08 Dec	-0.6	18:16:07	10	WSW	18:19:17	78	S	18:21:14	21	E
09 Dec	-0.7	18:53:13	10	W	18:56:22	81	SSW	18:56:55	57	ESE
10 Dec	-0.6	17:54:14	10	W	17:57:25	84	S	18:00:20	12	E
10 Dec	0.7	19:30:15	10	W	19:32:33	40	WSW	19:32:33	40	WSW
11 Dec	-0.5	18:31:10	10	W	18:34:18	73	S	18:35:57	25	ESE
12 Dec	-0.6	17:32:00	10	W	17:35:09	83	S	17:38:18	10	E
12 Dec	0.4	19:08:02	10	W	19:11:01	41	SSW	19:11:34	37	S
13 Dec	-0.2	18:08:45	10	W	18:11:51	60	SSW	18:14:57	10	ESE
15 Dec	0.4	17:45:59	10	W	17:49:05	47	SSW	17:52:03	10	SE

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The first 2 lists can be found in the *Observer's Handbook*. The Binocular List & 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.

Kathleen Houston wrote: "*I had a few Messiers from my Montreal club days, before moving to Prince Albert 5 years ago. So, all that with your humorous gift of M45....I've decided to become a Messier Club member! My count to date is 13 observed and logged Messier objects. Could you please add me to the Messier Club list?!*" You are now an official Messier Club member, Kathleen! Welcome aboard! **Mike Clancy has also now completed his Explore the Universe certificate**, and will jump onto the Messier list next month! Way to go Mike!

If you promise to look at M45 (Pleiades) sometime in the next few months with eyeballs, I'll enter you onto the Messier Club as '1' object, and you can go from there!

Iridium Evening Passes Mag. > –3 for Saskatoon - Nov. 11 to Dec. 18 - By Les Dickson

Date	Local Time	Intensity (Mag)	Alt.	Azimuth	Distance to flare centre	Satellite
15 Nov	18:57:49	-3	52°	31° (NNE)	13.8 km (W)	Iridium 76
16 Nov	18:51:36	-6	53°	33° (NNE)	6.1 km (E)	Iridium 46
17 Nov	18:45:28	-4	54°	36° (NE)	12.3 km (E)	Iridium 49
30 Nov	17:34:56	-8	70°	70° (ENE)	0.9 km (W)	Iridium 45
01 Dec	17:28:48	-7	70°	75° (ENE)	4.6 km (E)	Iridium 11
07 Dec	18:57:09	-3	52°	37° (NE)	17.9 km (W)	Iridium 33
08 Dec	18:51:00	-8	52°	40° (NE)	0.5 km (E)	Iridium 59
11 Dec	18:36:52	-9	58°	45° (NE)	0.9 km (E)	Iridium 96
16 Dec	18:08:11	-6	63°	57° (ENE)	5.3 km (E)	Iridium 28
18 Dec	17:58:48	-3	67°	61° (ENE)	15.2 km (W)	Iridium 57