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NIAGARA WHIRLPOOL



Brilliant red aurora lit up the sky over Niagara on October 30, 2003. Les Mardzi took this shot from Pelham.

NIAGARA WHIRLPOOL

The Newsletter of the Royal Astronomical Society of Canada Niagara Centre

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Original articles on astronomy and related subjects, observation reports, book reviews, letters, images and other items are needed. Please submit them at the meetings, mail them to RASC Niagara Centre, P.O. Box 4040, St. Catharines, Ontario, L2R 7S3, or e-mail them to the editor at niagarawhirlpool@yahoo.ca

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Opinions expressed are those of the author's, and do not necessarily reflect those of the RASC or the RASC, Niagara Centre.

Next General Meeting
November 20 at 7:00 pm

Next Executive Meeting
November 24 at Joanne Olsen's

Niagara Centre Website: E-mail Discussion List & Member's Only Area

The Niagara Centre has an e-mail discussion list and a member's area on the website. By subscribing to the e-mail list you will be able to post messages and carry on discussions about astronomy and activities with other Niagara Centre members. This is a great way to interact and get to know other members, or enhance your knowledge of astronomy. Please note that a log-in procedure is required to initially join the Discussion List. Complete instructions are available on the discussion list page on the website.

A member's only area of the website is also available. This area contains Niagara Centre information for the use of its members only. The member's area contains astrophotography by Niagara members, the Niagara library book list, and lots of other Centre related info of interest to members.

To receive the log-ins and passwords for the e-mail discussion list and member's area, contact John VanderBrugge or Ron Gasbarini and they will send you the needed information by e-mail.

Aurora Gallery.

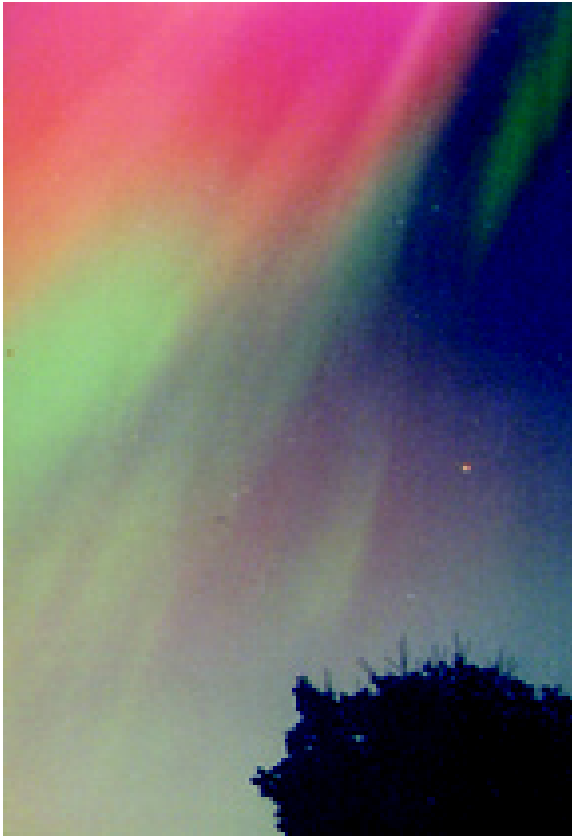
On the nights of Wednesday, October 29 and Thursday, October 30 the sky lit up with northern lights as the result of an intense geomagnetic storm. Niagara Centre members were out in force to catch them on Thursday, when the show started as soon as the sun was down.



The sun on October 24, 2003, with massive sunspots 484 and 486.
Photo by Les Mardzi.

Sunspot 486, the cause of all the aurora. Sketch by Philip Downey



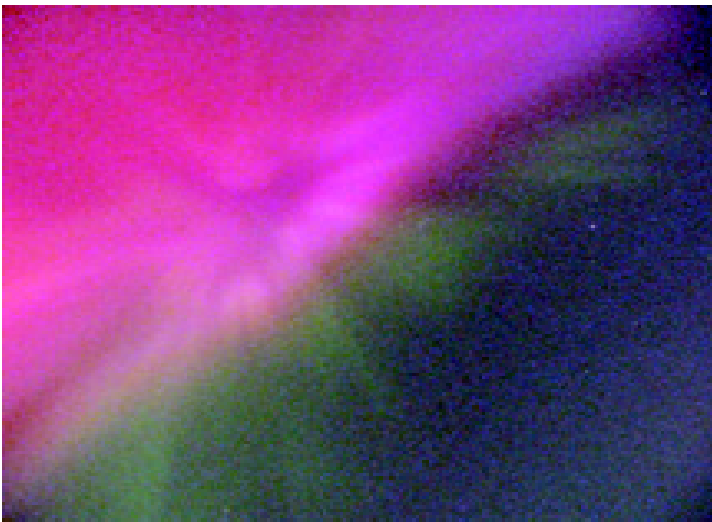


Deep red and green veils stretched into the south and almost reached Mars from St. Catharines
by Zoran Kaniksi



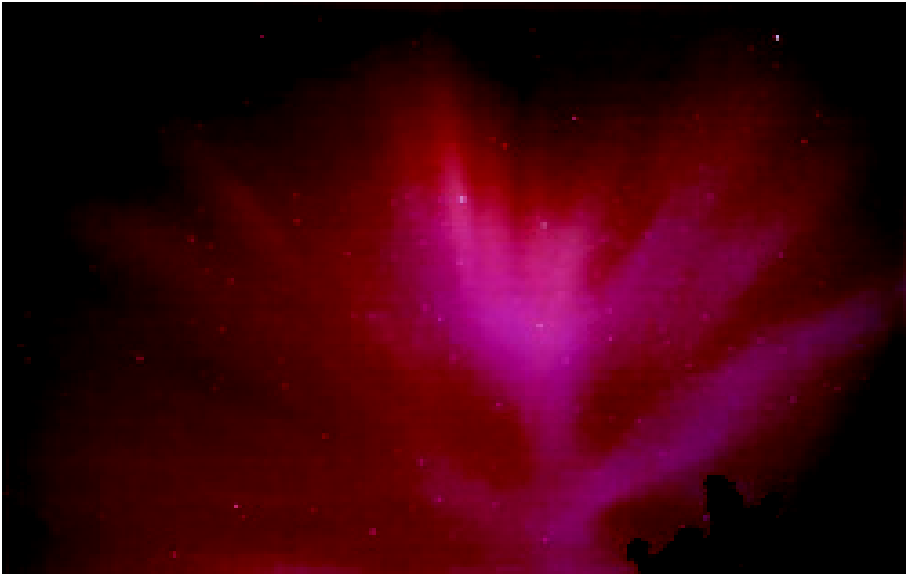
Green and yellow aurora from Welland
by Les Marzi

Green and pink veils meeting over Niagara on the Lake
by Glen Pidsadnick



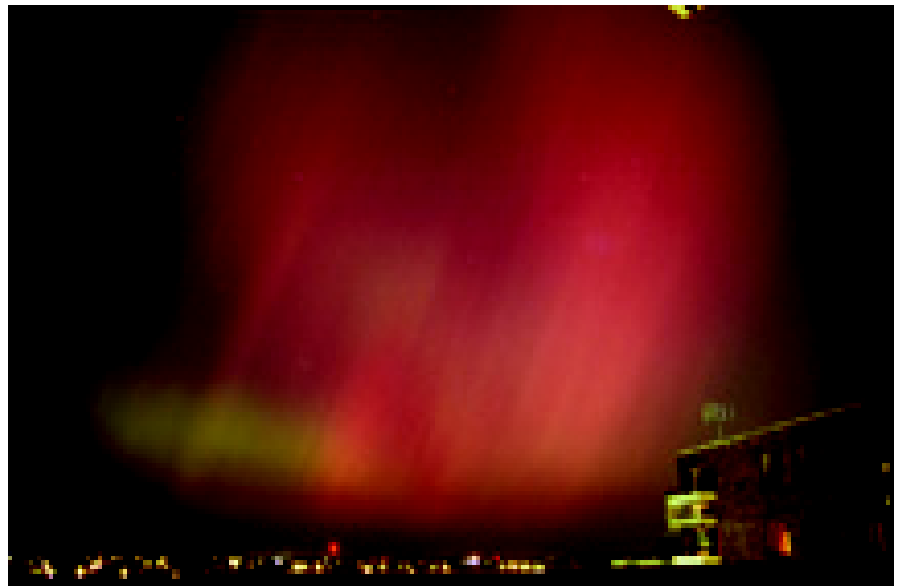
A deep red pillar over Niagara Falls
by Darlene Marano





Magenta curtains
over Fort Erie,
by Joe Iannandrea.

Multicoloured curtain
over St. Catharines.
by Les Welgan



Red, pink, orange and green aurora
hang over Fort George
in Niagara on the Lake
by Philip Downey

President's Report

By Glen Pidsadnick

Hello all, we are ahead of schedule this year in the banquet department, thanks to Brian Pihack. We have the date, April 3, 2004, the hall, same as last year, and the speaker, Eric Dunn. So let's all start buying and selling tickets. I'll let Brian fill you all in with the details.

We started the beginner's group at last month's meeting. There were 10 people who met at 7:00 p.m., before the meeting, in the library's small conference room, for a Q & A session, and an astronomical tutorial. No need to sign up, just be there at 7. We will keep this going as long as there is an interest. *Note* Our general meeting will now start at 7:30 sharp.

The speaker for November's meeting is Wojtek Pych, who is studying variable stars in globular clusters at the DDO. The topic he has chosen to speak to us about is Extrasolar Planets.

Secretary's Report

by John VanderBrugge

It's been a full month of solar astronomy for many of us with the sun's unprecedented activity. Either watching the huge sunspots develop by day, or the auroras created by them at night. The next few weeks will be interesting if this high level of solar energy continues. Lots of members have been taking excellent pictures with their digital cameras, and a few purists continue with good old-fashioned film.

We've had seven new members join in the past two months. They are Kevin Archer, Mike Cipryk, Laura Stewart, Jim and Erin Holiko, Franca Ingribelli, and Loreto Santostefano. Welcome to the club everyone. As always, become involved and enjoy the benefits the Niagara Centre has to offer.

Our September General Meeting was a special one as we had the pleasure of a visit from Hugh Maclean's children, Don Maclean and Sheila Pilgrim. They wanted to make a presentation to the club. Both of them travelled a great distance that evening to share some memories with us of Hugh and his love for the Niagara Centre and astronomy. Members in attendance also shared some fond memories as well. They concluded by making a special and sizeable donation to the club in Hugh's honour.

The donation is to be used by the club for projects which Hugh would be proud of, such as the new Hugh Maclean Observatory when the time comes. Hugh's memory and guidance will live on within the centre for many years to come. In my opinion we can best honour his memory by keeping the Centre a lively and fun place for our members to enjoy astronomy, as he strove to do through all the years he helped to run the Centre.

Clear skies all.

Some items from the estate of Hugh Maclean remain for sale. The prices have been dropped on these few items. Hugh wanted all his astronomy belongings to stay within the club he valued so much. The proceeds will be donated to the club as per his wishes. Please contact John VanderBrugge to view or purchase any item.

Sky & Telescope magazines, 185 issues from 1965 to 1995 - \$30.00

Astronomy magazines, 110 issues from 1980 to the early 90's - \$20.00

Box of assorted items including 3-12" glass blanks for mirror making (tools?) - free

Public Observing Coordinator's Report

By Darlene Marano

Wanted: One public observing coordinator able to predict the weather and plan starnights on evenings when stars are actually visible. Should have the ability to guide and discourage regular club members from showing the public how easy it is to look in people's windows with the use of an 8" Schmidt. Must keep a rabbit's foot at all times in their equipment case. Must have an emergency plan in place in the event of a starnight flop and should be successful at planning things other than beer and pizza nights (that's a bad thing?).

All kidding aside...it's not my fault. It's amazing to see how many people will still come out to talk to us on a cloudy starnight. I appreciate the support of our members who take the time to come out and talk to the public about the club, encourage them to attend our monthly meetings and talk up our upcoming starnights.

Alas, all was not lost this month. Could we have been any luckier than to have had a perfectly clear night the evening of the best aurora I have ever seen? I was so excited about all the wonderful greens that I was witnessing in the north, I didn't even notice the huge streak of red in the east. It was brilliant and reminded me of something that you may see if witnessing a volcano eruption. I couldn't snap pictures fast enough. Since I don't have a lot of experience with photographing auroras, I hoped and prayed that I had my camera set correctly. Within a few minutes the view overhead was breathtaking and the results on my digital camera were even better. I managed to pick up reds, greens, blues and purples which seemed to cover 75% of the sky. At our starnight last Saturday, it was great to see how many people were aware of the recent solar activity and aurora. I have found my conversations with our starnight guests to be enjoyable and quite often educational.

Our starnights for the next few months are going to be held at Firemans Park on November 29, 2003 and January 31, 2004. There are no starnights planned for the month of December due to the busy holiday season. I encourage our members to join us and thank everyone for their continued support.

Members' Observing Coordinator's Report

By Les Marczy

As winter approaches and Mars fades, we can look forward to the rise of the great gas giants Saturn and Jupiter. Saturn's rings are tilted towards us, giving a full view of its splendor. Through a 4- or 6-inch scope the Cassini and Encke divisions can be made out easily. The tilt of Saturn's rings varies over a period of 15 years - by 2009 the rings will disappear they are edge-on. At this time we will also be able to catch rare transits of Titan.

I have imaged Saturn twice, with some fairly good results. Jupiter will be my next target in the months to come, as it climbs higher in the night sky. Here is a good link to a web page that will help in planning your Jupiter observing sessions http://skyandtelescope.com/observing/objects/planets/article_107_1.asp. It lets you know when the Great Red Spot transits across the planet. It also lets you know when the satellites (moons) transit and occult each other. Good planning always makes for more enjoyable and productive observing and photography sessions.

As I write this column, I'm still in awe of the October 29th and 30th auroral displays. This had to be one of the best shows of multi-colored aurora I have ever witnessed. It was produced by an intense class X17 solar flare, 1700 times more powerful than a regular C-class flare. Wednesday's display wasn't as good as Thursday's, but two outbursts in two days is incredible luck. (continued)

Thursday's display started right at sunset, with daylight still in the sky. I had never seen this before. I

headed out of town to a darker location to photograph this spectacular event. As I was taking photos I could hear a strange humming, clicking sound. I didn't pay it much attention until later. This got me thinking, was this due to the light show? The answer is yes, Northern Lights have been known to be audible. This was the first time I have heard them. So the next time you witness an auroral display, keep your ears as well as your eyes open.

Our next Member Nights at the CCCA observatory will be November 22, December 20 and January 24, 2004. I hope to see you there.

Keep looking up.

Leonids Shine On November 18

The Leonid meteor shower peaks on the night of November 18. Even though it's a Tuesday, many members will be out at the observatory to watch the show, weather permitting. The peak hour of the shower is 10 p.m. Dress really warm, bring a lounge chair, pillow, blanket, and drinks and snacks to help keep you warm. And let's all hope for clear weather, since the number of Leonids seen by most Centre members during the last two years can be counted with single digits. For more information, contact John VanderBrugge.

Starlight Deprivation Syndrome or our Annual Banquet, April 03, 2004

By Brian Pihack

It was on my last trip to Vancouver, where I was representing the Niagara Centre at the General Assembly. I had listened to a lot of speakers, formally and informally. Two stood out when I thought back over the weekend. The first was Peter Broughton, a gentleman I always enjoy listening to. He is a very polished speaker with a grasp of the society's history like no other. After all, he penned "Looking Up - A History of the R.A.S.C." I think he would make a fine speaker for a "special events meeting night", sometime in the future.

The second gentleman mixed wit, humour, and knowledge in a way that left me laughing long after the talk! His name is Eric Dunn. Eric joined the RASC at age 11 and is now a writer, illustrator and broadcaster who specializes in astronomy and the history of science. We had his partner Ken Hewitt-White as guest speaker at our banquet a few years ago. Eric is the other half of the team behind the Cosmic Highway and Cosmic Odyssey television series.

Eric's talk was entitled "Up Kitt Peak Without A Paddle: Confessions of a Rain-Soaked Astronomer." You can see the humour, unique to the people of astronomy. From his talk, "This talk attempts to address the question of why astronomical interests persist and even flourish in a climate like Vancouver's; various methods of coping and escape; traveling the world in search of cheap astronomical thrills; symptoms of Starlight Deprivation Syndrome; feeding of Astrogeeks and more" you see what I mean. I felt he would be able to speak to the purebloods in our group and keep it entertaining for the significant others. I am in the process of firming up the details with Eric.

Once again, the banquet will be hosted by Christos Rigas of Chatters in the Delphi Room, on April 3, 2004. Please plan on attending; I would like to see many of the members attend this banquet, it promises to be a great one.

Huronia Star Party

By Rick Eller

My wife and I had an opportunity to take part in this year's Huronia Star Party hosted by the South Simcoe Amateur Astronomers. It ran from September 24-28 in its new location at Camp Saulaine, near Ivy, Ontario.

I've attended this star party for the past five years. I find it similar in many ways to "Gateway to the Universe" held near Powassan. Picturesque location, personable and helpful club members and interesting presentations. As can be seen from the accompanying photo, this venue offers some additional advantages including real washroom facilities in abundance, showers, bunkies, indoor toilets and 252 acres of open fields and woods.



It is difficult to evaluate the site for observing and imaging as the weather was overcast for most of the weekend. Camp Saulaine's valley location definitely limits its views to the horizon. To the northeast Barrie provides some additional light pollution. Still, views above the tree line were acceptable.

For club members who have not attended a star party I would encourage you to do so. It really is an experience to remember. The Huronia Star Party, in its

present location, offers non-campers an opportunity to take part in a more comfortable setting.

As an added bonus, I can personally attest to the quality of the door prizes, being the proud new owner of a Meade 8.8mm ultra-wide eyepiece.

THE HUNT FOR RED skies in OCTOBER

By Glen Pidsadnick

We astronomers are a funny bunch. We want to observe and photograph anything in the sky. Except those pesky clouds. Chasing those elusive auroras has become a passion of mine. I am not alone. Many members of the astronomical family have the same bug. With reports of unusually over active solar activity last month, the chase was on. One of the best tools for the hunt is the internet. There are many governmental and privately run web sites. They supply maps, grids, graphs, gages, gadgets, charts, satellite, and photographic images. Here's a list of some great aurora sites.

<http://spaceweather.com> <http://www.sec.noaa.gov/pmap/index.html> <http://www.sec.noaa.gov/SWN> http://www.sec.noaa.gov/rt_plots/kp_3d.html <http://www.spacew.com/astroalert.html> <http://www.sec.noaa.gov/today.html> <http://www.n3kl.org/sun/noaa.html>

The one-stop page is http://www.geocities.com/photo_geo/auroraes.html, which aggregates data from all the ones listed above. It's in French, but it is a great site, the guy seems to know what he is doing and it shows in the quality of his photos. He has links from Australia, the US and Canada all on one page.

So when those gages, graphs, and meters are all red-lining, stick your head outside and look, you just might see something. Remember, the intensity of the aurora is often proportional to the thickness of the clouds, but sometimes you get lucky. See the aurora gallery with pictures by me and other members on pages x and y.

Newtonian Collimation: Give It a Try!

by John VanderBrugge

Many of us in the Niagara Centre own Newtonian reflectors of varying sizes and mounts. They are excellent telescopes that perform well with the most light grasp for the money. The only caveat is they need to be regularly collimated to perform at their best. Collimation is the process of aligning the two mirrors and focusing tube. The difference at the eyepiece between a well-collimated and a poorly-collimated Newtonian is obvious. If you want the best performance and the sharpest views out of your telescope you need to learn how to collimate. Collimation should be done regularly and often - at least once a season, or more if you use or move your scope frequently. Even during the course of an evening your collimation will shift due to temperature changes, especially with truss tube designs. A quick adjustment can give the crisp views we all desire.

The process of collimation seems intimidating if you haven't attempted it before. Many are scared to start fiddling

with all those screws on their primary and secondary mirrors. It is not that difficult though, and anyone willing to spend the time and work through the steps can learn how to collimate their telescope. The key is a good guide to walk you through the process, and the proper tools to do the job.

You will need two special tools that fit into your focuser - a sight tube for rough collimation, and a Cheshire eyepiece for fine collimation. These are the only tools needed to collimate properly. If you want to take your skills further after you have learned the basics, you can look into an autocollimator eyepiece, or a laser collimator. A laser collimator is not the ultimate tool many believe it to be. It performs some steps of collimation, but most of us can eas-



John and his 15" Dobsonian

ily live without it. It's a handy but unnecessary tool. In my opinion the best guide is "New Perspectives on Newtonian Collimation: Principles and Procedures", a 60-page booklet by Vic Menard and Tippy D'Auria. It takes you through the entire process step by step and explains clearly why you are performing each step. After you've collimated a few times following the guide you'll be familiar enough that you can do it yourself quickly. As a bonus you'll understand exactly how your telescope works and why the light path needs to be adjusted. The book also has sections on Schmidt-Cassegrain and refractor collimation.

The tools and book can be purchased through most astronomy dealers. Tectron Telescopes sells a nice set of three tools (sight tube, Cheshire eyepiece, and autocollimator) and the booklet for \$115 US. You can contact them at Tectron Telescopes (352) 490-9101 or www.amateurastronomy.com/tools.html. You can order the tools separately as well from Tectron. You might want to avoid the combination sight tube/Cheshire eyepieces some dealers sell as they can be confusing to use. It's easier and clearer to use them separately.

I hope many of our members take on the challenge and learn the techniques of collimation. You'll learn a required skill for observing plus a lot about your telescope. After you have the process mastered, teach it to someone else. Good luck.

Total Lunar Eclipse

by Philip Downey

Saturday, November 8 the Niagara Centre hosted a very successful public star night in the parking lot of the Fairview Mall outside of Starbucks. Over 20 members set up 15 telescopes for the night's total lunar eclipse, which began at 6 p.m. and continued until to 11. The night was clear and cold until 10, when occasional clouds began to roll in from the north.

The public had an opportunity to see Earth's shadow come across and then completely cover the full Moon. During totality, from 8 to 8:30, the moon had a red colour, with a whiter area at its south.

Although the light pollution is terrible, for foot traffic the mall is hard to beat. Many families, couples and friends were thrilled with the view through our telescopes. Some called home on cell phones to invite more friends and family to attend, while others came back later that night.

Eclipse begins
by Les Welgan



Total eclipse
by Glen Pidsadnick



Waning eclipse
by Darlene
Marano



Waning eclipse
by Les Marczy



Waiting for
eclipse to begin
from Fairview
Mall
by Les Welgan



Great turnout by
members and
public at Fairview
Mall
by Les Welgan



Event Horizon

November 15	Saturn occults a 9th magnitude star, 1 a.m. Watch it peek through the rings.
November 18	Leonid meteors peak at 10 p.m. See you at the observatory!
November 20	General meeting, Niagara Falls Public Library, 7:30 p.m. Speaker: Wojtek Pych, Topic: Extrasolar Planets
November 22	Members' starnight. CCCA Observatory. Comet Encke is in the Coathanger.
November 23	New moon. Total eclipse of the sun in Antarctica.
November 24	Venus, Mercury and Moon are close together.
November 29	Public star night, Fireman's Park. Sundown.
December 9	Mercury highest in the west-southwest.
December 13	Geminid meteors peak.
December 18	General meeting, Niagara Falls Public Library, 7:30 p.m. Christmas party afterwards at Chatters.
December 20	Members' starnight. CCCA Observatory.
December 22	Winter solstice.
December 23	New moon.
December 25	Saturn and Moon close together.
December 31	Saturn at opposition.
January 4	Quadrantid meteors peak.
January 15	General meeting, Niagara Falls Public Library, 7:30 p.m.
January 21	New moon.
January 24	Members' starnight. CCCA Observatory.
January 31	Public star night, Fireman's Park. Sundown.

Niagara Centre Ads

Slide/Negative Scanning: For anyone wanting to have their slides/negatives converted to digital files, I can scan them at high resolution, 2800 dpi, and save them onto a CD-R. Cost: \$1.00 per file, \$5.00 for CD-R. Contact Les Welgan at 905-934-4647, astro_nuts@cogeco.ca

For Sale: Meade 8-inch Schmidt-Cassegrain MTS (Modular Telescope System), shown below. Excellent condition. Comes with: Fork Equatorial on Pier Mount, LX3 Quartz Drive RA, Dec Motor, Hand Controller (RA & Dec), MotoFocus, Orion Sliding Counterweight, 1.25" diagonal, Meade 26 mm and 15 mm Plossl eyepieces, Bob's Knobs on secondary mirror, metal storage case. Price: \$1000.00. Contact: Les Welgan at 905-934-4647.

For Sale: Supercircuits PC-23C monochrome low lux video camera (unmodified). Asking \$100.00. Contact Rick Eller at 519-426-2471.

For Sale: Antares 2x, FMC, 3-element barlow. Barely used. (It's only a few weeks old.) Asking \$100.00 or best offer. Contact Brian Blais at 905-682-0257.

For Sale: Finished but uncoated 8-inch f/3.8 mirror, 1 3/8" thick Pyrex. Comes with proper plywood shipping crate. Suitable for a fast Newtonian or it is cored if you want to make a Cassegrain. If you would like to pick it up I will also include the tube and mirror cell that were built for this as well as a polished but unfigured Cassegrain secondary. Mirror was completed a year-and-a-half ago. It looks ugly as I started with a rough looking blank, but this will have negligible effect on the image. Asking \$100 or best offer. Contact Joe Iannandrea at 905-991-0781.

Khan Scope Centre

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