Saskatoon Skies

Vol. 37
No. 11
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2006

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

First *Sight* for the Club's New 16" Scope

Yannis Pahatouroglou and Stan Shadick proudly showing off the club's newly acquired 16" Meade LX200 in the Physics Building workshop. It will soon be installed at Sleaford.

Photo by Ron Waldron

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In This Issue:

Looking to the Future ...

MEMBERSHIP? IT'S NEVER TOO LATE TO JOIN!

Regular: $65.00 /year Youth: $34.25 /year Lifetime: $1100

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, Mike Clancy, or renew through the National Office and let Mike 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
- The Journal of the RASC (bimonthly)
- SkyNews Magazine (bimonthly)
- use of the Centre library
- 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 fax 306-659-2170.*

SASKATOON CENTRE'S MAIN OFFICERS:

President – Ron Waldron, *382-9428*
Secretary – Al Hartridge, *373-0034*
Vice-President – Garry Stone, *857-4707*
Treasurer – Norma Jensen, *244-7360*

BOTTLE DRIVE & CANADIAN TIRE $

by Darrell Chatfield

We have collected $185.10 in Canadian Tire Money! If you cannot make it to a meeting but would like to contribute, your Canadian Tire money please call me at 374-9278.

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**

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

Newsletter Editors – Tenho Tuomi, Ken Maher **Copy** & **Collate**– Les & Ellen Dickson **Labels & Temps** – Mike Clancy **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 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 .JPGs (.GIFs also accepted). Send e-mail submissions to the editor at <tuomi@sasktel.net>. Please send articles in "generic" formats with simple formatting – one tab at the beginning of paragraphs, one space after commas and periods. 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.

RASC CALENDAR OF EVENTS

Nov 17	**Observers Group** - 8:00 p.m., Sleaford Observatory	Larry Scott	934-5801
Nov 20	**RASC Executive Meeting** - 6:30 p.m., 165 Physics, U of S.	Gary Stone	857-4707
Nov 20	**RASC General Meeting** - 7:30 p.m., 165 Physics, U. of S	Gary Stone	857-4707
Dec 13-14	**Geminid meteor shower**	Rick Huziak	665-3392
Dec 15	**Observers Group** - 8:00 p.m., Sleaford Observatory	Larry Scott	934-5801
Dec 18	**RASC Executive Meeting** - 6:30 p.m., 165 Physics, U of S.	Gary Stone	857-4707
Dec 18	**RASC General Meeting** - 7:30 p.m., 165 Physics, U. of S	Gary Stone	857-4707
Jan 12	**Observers Group** - 8:00 p.m., Sleaford Observatory	Larry Scott	934-5801

MINUTES OF THE GENERAL MEETING OCTOBER 16, 2006

by Al Hartridge

1. Meeting called to order at 7:30 p.m.

2. Approval of the minutes of the September general meeting. Moved by Les Dickson, seconded by Jim Young and carried.

3. SSSP report - Norma Jensen almost finished with the financial report. No meetings for the upcoming SSSP have been scheduled yet.

4. Fundraising - Books of tickets have been distributed for the raffle. Tables will be set up for sale of raffle tickets at several of the malls in the near future. Stan Shadick suggested selling raffle tickets at the U of S observatory.

5. Membership - there are 83 members at present.

6.Presentations:
-The membership's first look at the Centre's 16" Meade - Yannis Pahatouroglou
-Alberta Bound Astronomy - Rick Huziak

7. Passing of the gavel to our new president - Ron Waldron

8. Meeting adjourned at 10:15 p.m.

SKY BUYS & MIRROR CELLS

The Saskatoon Centre's Swap and Sale Page!

For Loan to Members: Slide set for talks on general astronomy and light pollution. You can borrow this set any time you want to give a talk to your favourite group. Contact Rick Huziak at 665-3392.

For Sale: MEADE DSI CAMERA,
Regular price is $349.99, I will sell for $170.00
Contact Bob Johnson at 306-955-4618.

For Sale: ALUMINUM CASE,
13¾ x 18¼ x 6¼" d (35 x 46 x 16cm), with dividers for tools, no foam insert. $25 or best offer. Contact Les Dickson, 249-1091 or dicksonl@sasktel.net.

MONDAY, NOVEMBER 20

7:30 PM – ROOM 165, U OF S

Presenting

"Observing the Sun with Magnetometers"
-- Tenho Tuomi
- **Reports** from the **Hobby Show**
- **Reports** on the November 8 **Transit of Mercury**

Note: New location for the meeting!
There will be an executive meeting in room 175 at 6:30 p.m!

MINUTES OF THE EXECUTIVE MEETING OCTOBER 16, 2006

by Al Hartridge

1. Meeting called to order at 6:30 p.m.

2. Approval of minutes of the September executive meeting. Moved by Jim Young and seconded by Tenho Tuomi and carried.

3. Saskatoon Hobby Show, Nov.10 and 11. A 2-booth setup will cost $110.00. We will have the quilt on display and raffle tickets will be sold.

4. Approval of Slate of Officers for election at upcoming general meeting.
   President - Garry Stone
   Vice President - Barb Wright
   Past President - Ron Waldron
   Secretary - Al Hartridge
   Treasurer - Norma Jensen
   Newsletter - Tenho Tuomi and Ken Maher

5. Sleaford Open House- there was a poor turn out of the public likely because the sky appeared cloudy in Saskatoon, however the sky cleared nicely at Sleaford for several hours allowing some viewing for those in attendance. Rick suggests trying to make this into a fundraising event in the future.

6. Meade 16" - approval of payment of expenses incurred by Garry Stone for a sum of $310.00. A motion was made by Barb Wright that we pay Garry s expenses plus an honorarium of $100.00, seconded by Ellen Dickson and carried.
A committee consisting of Bill Hydomako and Rick Huziak was established to set up the telescope.

7. Sleaford - Bill Hydomako will re-assume his roll of director of operations etc with regard to a freestanding observatory and dome for the new telescope.

8. Space Club - Brent Burlingham is asking for volunteers to help with an evening program on October 20th. Kathleen Houston and Rick Huziak will help.

9. Board of Directors for our Centre will have to be established.

10. Sales items - receipt for sales may not necessarily be issued on the spot by Bruce to save time but at a later date.

11. Meeting adjourned at 7:23 p.m.

BOOKS FOR SALE

by Bruce Brandell, Sales Coordinator

All items will be available at our next meeting or call 249-1119, or email bruce_brandell@yahoo.com

Title	*Author*	*# Avail*	*Price*
Calendars			
RASC 2007	RASC	19	$14.00
Night Watcher	S. Schadick	1	$18.00
Books			
The Backyard Astronomer's Guide	Dickinson & Dyer	2	$45.00
Exploring the Sky by Day	T. Dickinson	2	$9.50
Exploring the Night Sky	T. Dickinson	3	$9.50
Night Watch	T. Dickinson	2	$33.00
Summer Stargazing	T. Dickinson	2	$18.00
Night Sky Atlas	R. Scagell	3	$27.00
Stargazing with a Telescope	R. Scagell	2	$14.00
The Moon Observer's Guide	P. Grego	2	$14.00
Stars	Zim, Baker & Chartrand	1	$10.00
Firefly Astronomy Dictionary	Firefly	3	$14.00
Firefly Planisphere	Firefly	1	$19.00
Isabelle Williamson Lunar Observing Program	RASC	8	$10.00
Mars Observer's Guide	N. Bone	2	$14.00
Deep Sky Observer's Guide	N. Bone	2	$14.00
Practical Astronomy	S. Dunlop	2	$14.00
Skyways – Astronomy Handbook for Teachers	M.L. Whitehorne	2	$20.00
The Beginner's Observer's Guide	L. Enright	3	$19.00
Observer's Handbook 2006	**RASC**	**5**	**10.00**
Observer's Handbook 2005	**RASC**	**1**	**5.00**
Saskatoon's Stone	W.K. Mysyk & C.L. Kulyk	8	$3.00
Miscellaneous			
RASC Centennial Mug		2	$5.00
RASC Stickers, blue or white		lots	$1.00
SSSP 2001 Pin (Summer Triangle)		29	$2.00
SSSP 2002 Pin (Comet)		17	$2.00
SSSP 2006 Pin (10)		17	$5.00

October General Meeting Report

by Tenho Tuomi

The October General Meeting was held in a new room, Physics 165, for the former room was too small on some occasions. This room will be tried out for the next two meetings to see if is a better location for our meetings.

A view of the new room. Photo by Tenho Tuomi

At this meeting we had a privilege of making a tour of the Physics Building workshop to look at the 16" Meade LX200 telescope which our centre bought from the RASC centre at Toronto.

This series of photographs shows highlights of the meeting.

Stan giving an overview of some of the new scope's features and the "Passing of the Gavel" from Ron to Gary. All photos by Tenho Tuomi.

Saskatoon RASC Executive Members for 2007

- President Garry Stone
- Vice-President Barb Wright
- Past President Ron Waldron
- Newsletter Co-Editors Tenho Tuomi and Ken Maher
- Secretary Al Hartridge
- Treasurer Norma Jenzen
- National Council Representative TBA

Councillors:

- Events Coordinator Jeff Swick
- Fundraising Coordinator Darrell Chatfield
- Membership Coordinator Mike Clancy
- Observing Coordinator Larry Scott
- Sleaford Site Coordinator Bill Hydomako
- SSSP Coordinator Barb Wright
- Councillor at-large Jim Young
- Councillor at-large Les Dickson

Non-executive Coordinators

- Librarian Darrell Chatfield
- Centre Photographer/Archivist George Charpentier
- Meeting Room Coordinator Graham Hartridge
- New and Distant Members Coordinator James Gorkoff
- Publications Sales Coordinator Bruce Brandell
- Webmaster Gordon Sarty

Precession, Aztecs, and the End of the World

by Mike Clancy

So, do I have your attention? Then let's have a little Halloween scary story! This all began with a chance conversation with a hitch-hiker who earnestly claimed that the world would end on December 22, 2012. "The ancient Aztecs predicted it", he said, "because their calendar doesn't go any further than that date." I wasn't quite willing to throw myself on any ancient South American pyramids just on his say-so; I checked it out on the Internet instead!

Just a word on the topic of precession, which is a word describing the earth's wobble around its axis as it circles the sun. More importantly, the earth's wobble has a cyclic period of approximately 25,800 years, meaning that what was the "Pole Star" today was not the "Pole Star" 25,800 years ago. The stars not only appear to rotate around our polar axis (they don't; we're the ones moving) but they will also "swim", as it were, up and down in the heavens. Personally, I wouldn't notice it as I'm far too busy looking for faint, dim smudges and calling it a hobby. But, more importantly, the ancient Aztecs did notice precession, and figured out a way to predict the wobble.

Their whole calendar depends on a somewhat complicated series of interwoven calendars: the Long Count (which measures the precession or Platonic cycle), the Tzolkin or divine calendar (comprised of 2 week intervals, each week having 13 days, something like 250 days in the divine year – no, it didn't work too well!), and the Haab or civil calendar. Of these only the Haab calendar bears any resemblance to the 365-day travel of our planet around the sun. The Aztecs had 12 months of 30 days each; the extra 5 days were compressed into a year-end "unlucky", non-month time. I would imagine everyone just stayed home for those 5 days!

In any case, the Aztecs, understanding as they did the idea of precession, looked deeply into this whole business of the precession cycle. Their Long Count began at 13.0.0.0.0 which experts argue over as to the actual start date. The closest 2 answers are 06Sep3114 BC and 08Sep3114 BC (by the Julian calendar), which makes the next 13.0.0.0.0 on the Aztec calendar occur 21or 23Dec2012. The important thing here, before you run off and start survival training, is that the Aztecs never continued their calendar after this date because they had no reason to; the whole cumbersome calendar simply started again from the same point, so why rebuild it?

Now, why is this particular date so important? When one considers that the planting and harvesting cycle would be critical to their entire economy, it is clearly in their best interests to know when the seasons are going to run their course. Let's face it, in an era where blood sacrifice (and I'm not talking about a shaving cut here!) is the norm the statement "I think you should plant now!" may well be career limiting! So, what are the heavens doing on or about 21-23Dec2012? For that, my trusty "Starry Night Backyard" is called upon. Setting the place to Mexico City and the time to 1900 hrs, 22Dec20012 we find Saturn just above Aldebaran, the ¾ moon above that yet, and Polaris about mid-way up the northern horizon; nothing remarkable at all, really. What would the Winter Solstice mean to the ancient Aztecs?

Well, now things get a little weird. They believed that the Milky Way represented the path of the gods (represented by the constellations) across the heavens, and the Sacred Tree (their name for the ecliptic) was the path of their Chief Deity across the heavens. Where the two paths crossed would be the gateway or portal between our world and the afterlife. Lord Pacul, the afore-mentioned god, is associated with the sun so what is going on during the day when the sun is crossing the ecliptic? Well now, that would put the sun in Sagittarius, right smack in the middle of the Milky Way. (OOOOh, very scary!) Right at the crossing of the ecliptic and the Galactic Equator you find M20, the Trifid Nebula (just above) and the 5th-magnitude star Sag4 just below. Although I didn't check it extensively, the winter solstice sun rarely intersects the ecliptic and the Milky Way at the same time; only once every 5200 years or so. In fact, once every Long Count, right at the very moment the Long Count calendar ticks over to 13.0.0.0.0! (OK, so who's going to tuck ME into bed tonight?!?) *Clever* little Aztecs, aren't they?!?

So what, precisely does this mean to we non-Aztecs? Will the world really end? Will Republicans walk the earth, pretending to be zombies? Will we all ascend Lord Pacul's umbilicus to some other-worldly home known only to the Scientologist elite? Or will we see the Aztec calendar peacefully slide another bead forward as the earth revolves around the sun? As for me, I won't be stockpiling ammunition in "them thar hills" any time soon, believing as I do that the reason the Aztecs didn't continue their calendar after that date as it had become cyclic and there was no reason to chip a whole new set out of the hard stone. Besides, I'm sure the high priests were busy divining the next harvest schedule!

October at the Tuomi Observatory

by Tenho Tuomi

October seemed like a dismal month for observing with its cold (second coldest on my weather records) and clouds but I still managed to log a few interesting events.

The month started well when Garry Stone alerted me on October 5 to a new comet in the sky, C/2006 M6 SWAN. I was able to get this picture of it in the morning sky after the almost full moon set. The comet made its closest approach to earth in the last week of October, on its way out from the sun. It was supposed to have been at its brightest in the second week of October, but contrary to predictions it suddenly brightened up about the 24th of October, to magnitude 4 to 4.5 according to reports. I found it naked eye on the evenings of October 24 and 25. The last observation of October was on the 31st to look at comet Swan and M13 with my 8x30 scope, both in one eyepiece, looking very similar through the thickening clouds. No wonder Messier made a list of objects that are not comets.

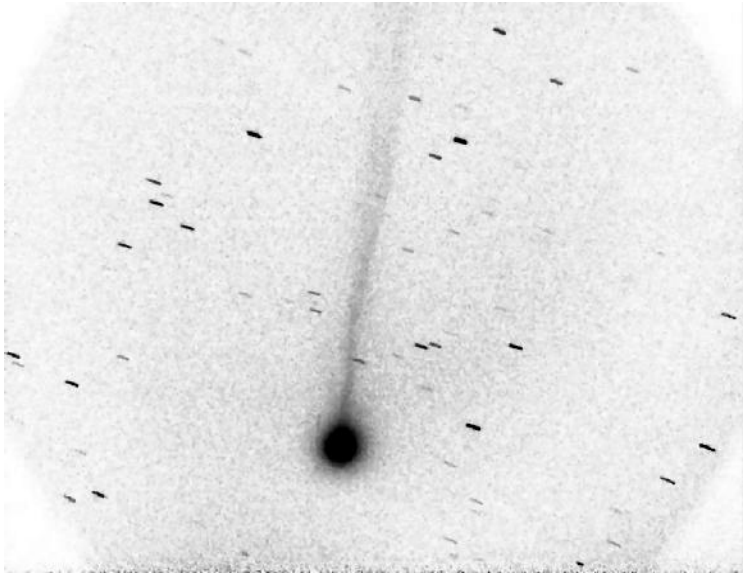


Photo by Tenho Tuomi

On the evening of October 9th I played tag with the clouds again as I looked at the almost full moon gliding across the Pleiades.

On October 23 and 24 I photographed the periodic comet 4P/Faye, the second brightest comet in the sky currently. Well outside the orbit of the earth, and with its tail pointing almost directly away from us, there was not too much to see.

One October project was to see how close to superior conjunction I could observe Venus. I found Venus last on the morning of October 22 using my 8-inch Newtonian, 5 days from superior conjunction, about 1 degree in altitude, and less than 5 minutes before sunrise. Venus was probably only one degree from the sun! Clouds prevented me from trying again on subsequent mornings.

Observer's Group Notes

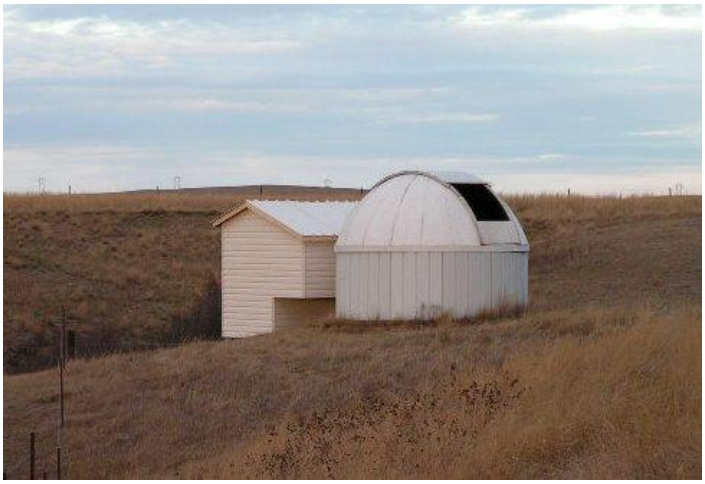
by Larry Scott, Observers Group Coordinator

Due to weather conditions the October Observers Group was moved from the 20th to the 21st. There were 5 members and 1 guest that showed up on that Saturday night, which was clear and cool (-10 C).

We arrived about 8:30 (sorry we missed you Colten) to observe comet SWAN (C/2006 M4), the Orionid meteor shower, and had an early morning look at Saturn.

Norma and I got out to Sleaford again on Wednesday, Oct. 25th for a very nice evening which turned out to be our last clear night for many days. That evening also coincided with a brightening of comet SWAN which was sporting a 1 to 1.5 degree tail and was very attractive in both binoculars and scopes.

Our next group meeting (weather permitting) will be Nov. 17th at Sleaford. See you then.



Garry Stone's new 8x10 foot warm-up shelter.

Photo by Garry Stone

Mercury Transit from Southern California

by Bob Christie

One of the perks of full-time RVing, is to be able to travel around to better observe astronomical events. Such was the case to view the Mercury transit on Nov. 8. Instead of heading directly to Arizona for the winter, we decided to spend the month of Nov. in the Palm Springs area of California. This location allowed the full transit to be observed.

Transit and Sunspot – flipped and edited.

Photo by Bob Christie

We weren't disappointed. The weather was hot, calm, and especially clear. The wind had shifted from the east, and kept the skies clear of nearby Los Angles area smog. In the RV resort, right in front of my motorhome, I set up my C5 telescope with solar filter and digital Canon Power Shot G2 camera. With my equipment setup, shooting prime focus with a star diagonal, I took a photo every 15 minutes during the 5 hour transit. The photos make a good sequential record of the event. See attached photo taken about 30 minutes after ingress.

I observed first contact at 11:12:50 local PST time, and fourth contact at 16:09:45 local PST. Even when you know about where and when, the contacts are about to occur, it takes several seconds to be sure. The fuzzy, fluctuating edge of the sun's disk, caused by Earth's atmosphere, obscures the observation.

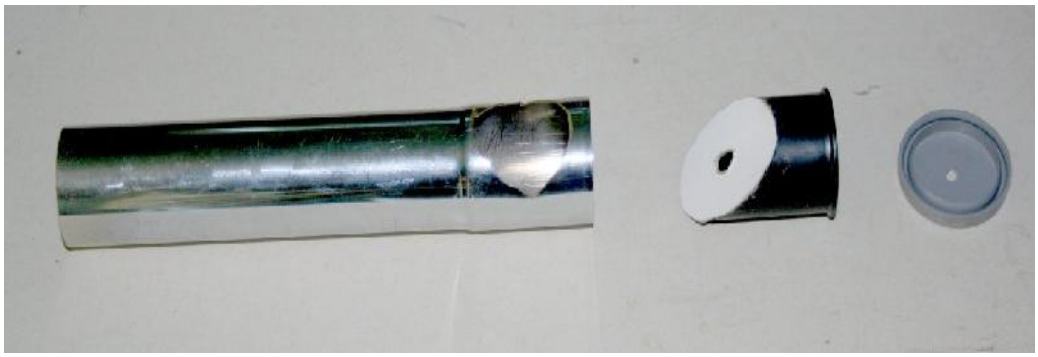
That bonus large sunspot sure helped make it more interesting for the numerous other snowbirds that happened by, and were curious what I was doing. RASC member that I am, I gladly showed them, and was greeted with the usual oohs and wows. Except for one guy who didn't even look. He said he had seen it hundreds of times, while driving along, naked eye, no solar filter (said it wasn't necessary..used clouds to block harmful sun). I started to explain the absurdness of his claims, but quickly held my tongue (it was hard).

It's occasionally nice to do daytime astronomy and not have to worry about light pollution. Doing it in the sunny, warm south, doesn't hurt either. Mount Palomar is a couple hours drive away...must visit. More on that another time.

Bob Christie, Roaming Saskatoon member at large.

Recipe for a $5 Cheshire Collimator

by Tenho Tuomi



Ingredients:

1 1-1/4 x 8 inch sink drain extension tube from Centennial Plumbing

(Take a focuser or barlow along to make sure it fits for the sizes do seem to vary)

1 notch cut in large end of tube as illustrated.

1 35mm film cannister, cut at 45 degrees.

1 white cardboard glued to cut end of cannister.

1 small hole drilled in cannister cap

1 larger hole drilled in center of cardboard.

1 mark in middle of primary mirror. Some use page reinforcing rings. I cut a 1/2 inch donut out of vinyl tape.

Put it all together and enjoy quick and perfect collimating of your Newtonian.

The Planets This Month, November 2006

by Murray D. Paulson, Edmonton Centre

Winter is upon us again, and stormy November will make observing dear. This month starts off with **Mercury** in descent from the evening sky on its way into the morning sky. On November 8th it passed in most spectacular inferior conjunction with the sun. Mercury's 9.95" disk spends 4 hours and 58 minutes sliding across the sun's disk. The next transit of Mercury is in 2016. Hope you got it. Over the rest of the month Mercury swings up into the morning sky. On Nov 25 Mercury will arrive at Greatest Western Elongation, not even 3 weeks after the transit! At this time it will show a diameter of 7" and will shine at Magnitude -0.5. It sits just under 20 degrees from the sun and rises at 6:15 am, 2 hours before the sun. This apparition should be a good one and if you can follow it into December, you will get to see Mercury overtake Mars and Jupiter. The three planets will be closer than 3 degrees apart from Friday the 8th to Tuesday the 12th.

On December 10th, the grouping will be especially tight with the three planets occupying less than 1 degree of space. The grouping rises at 7:20 am with Mercury only 10 minutes of arc above Jupiter. Mars sits 1 degree to the right of Jupiter and Mercury. Mars is the dim red speck at magnitude 1.5 with Mercury at magnitude –0.6 and Jupiter shining at Magnitude -1.7. Binoculars will make the hunt easier, and ensure that you get all three in this close conjunction. It will make a nice photo op, so mark it on your calendar.

Venus passed the sun in superior conjunction back in late October, and it will sneak back into the evening sky over the month of November. Venus shines at magnitude –3.9 and will show you a 9.9" almost full disk in the eyepiece. It is on the far side of the sun, so the motion with respect to the sun is slow at best. Venus moves about a quarter of a degree a day away from the sun, so by the end of November it will sit a mere 8 ½ degrees from the sun. When can you first see it in the twilight glare? The angle of the evening ecliptic is poor, sliding down into Sagittarius, so it is a challenging hunt. You will need a really good southwest horizon.

Mars sticks close to the sun for the month of November. Its daily motion is somewhat greater than that of Venus, but over the month, it only moves 10 degrees from the sun. It's grouping with Jupiter and Mercury is the first real good chance to find it located in the brightening morning sky. You should be able to set the group in a medium to high power eyepiece field depending on the date. Jupiter is 31" in diameter with Mercury coming in second at 5.2" and Mars is 3.8".

Jupiter attends his date with old sol on November 21 so is hidden in the sun's glare for the month. The conjunction in early December is probably the first good excuse to hunt the king of planets down. At that time you should take up the scope and have a look at the moons of Jupiter and contemplate the circles within circles as Mercury sits just above this miniature solar system.

Saturn sits in the sickle of Leo and rises just after 11:30 pm at the beginning of the month. It shines at magnitude 0.5. In the eyepiece you will see the 18" disk adorned with an array of moons, but take a moment to note how much the ring plane has declined since last year. Only a few years back we had that great ring plane tilted up at more than 26 degrees, and now it is only tilted up at 12 degrees! We are just over two years away from the ring plane crossing, so watch the progression of the tilt of the rings over the apparition. It will increase in tilt as the earth approaches Saturn until a maximum of 15.4 degrees in April then decline over the summer months.

On November 12, the Moon and Saturn rise in close proximity at 11:30 pm. They were only 41' apart 5 hours earlier, but they were far below the horizon and when they finally do rise, they are just under 3 degrees apart. In one lunar months time the moon and Saturn do this again, and we get to see it! On December 10th at 05:26 am the Moon and Saturn are only 35' apart. If this is too early in the morning for you, they will still be fairly close in the more reasonable morning hours. Have a look as you get set up to see the close conjunction of Jupiter Mercury and Mars that Sunday morning.

Best of luck, and clear skies.

The Messier, H-400 & H-400-II, FNGC, Binoc & EtU Club

Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or 40 Herschel II Explore the Universe, or 35 Binocular Objects 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.Hydomako, T.Tuomi, L.Scott, G.Charpentier, B. Johnson, M. Clancy, L. Dickson

Brent Burlingham		107
Ken Maher		105
Brent Gratias		96
Mike Oosterlaken		93
Lorne Jensen		89
Kathleen Houston		83
Margo Miller		77
Wade Selvig		75
Norma Jensen	Up!	67
Garry Stone		57
Ellen Dickson	Up!	30
Jeff Swick		24
Barb Wright		23
Brian Friesen		15
Bruce Brandell		5

FINEST NGC CLUB
Certified at 110 Objects:
R.Huziak, D.Jeffrey, G.Sarty, D.Chatfield, T.Tuomi

Larry Scott	Done!	110
Scott Alexander		97
Bill Hydomako		55
Sandy Ferguson		23
Mike Oosterlaken		20
George Charpentier		12
Ken Maher		8
Mike Clancy		7

Chatfield BINOCULAR CERTIFICATE
Certified at 35 Objects:
M.Stephens, T.Tuomi, M.Clancy, R.Huziak, K. Maher

Brent Gratias	36
Mike Oosterlaken	32
Anna Clancy	24

EXPLORE the UNIVERSE
Certified for Certificate:
M.Clancy, T.Tuomi

HERSCHEL 400 CLUB
Certified at 400 Objects:
D.Jeffrey, R.Huziak, D.Chatfield

Gord Sarty	251
Tenho Tuomi	222
Scott Alexander	117
Mike Oosterlaken	68
Sandy Ferguson	18

HERSCHEL 400-II CLUB
Certified at 400 Objects:

Darrell Chatfield	290
Richard Huziak	211

The Messier & Finest NGC lists can be found in the Observer's Handbook. The Explore the Universe list is available on the National web site. The Herschel 400 list is available at the web site listed below. The Binocular List will be available at each general meeting or can be mailed out on request to distant members.

On-line Messier and Finest NGC lists, charts and logbooks - check out:
http://www.rasc.ca/observe.htm

On-line Herschel 400 List - check out the official site at:
http://www.astroleague.org/al/obsclubs/herschel/hers400.html

Many hours of hand work went into the making of this very fine looking quilt. Most of the work on the star was done on a treadle machine, for those of you who know about quilting. The side of this quilt is 85" x 101", which is large enough to fit a queen size bed! (value$2500)

RASC RAFFLE

(Lic. # L06-0213)

by Darrell Chatfield

The RASC RAFFLE is now on, I will have ticket booklets at all the meetings from now until April/07. The other two prizes are a Viewsonic 19" flat screen monitor, and a Weitzel scratch art "Owl" print. The raffle is to raise money to house our new 16" Meade scope. Pick up your books of tickets today!

Ticket prices are: $2.00 each, or three for $5.00.
Draw Date: April 21, 2007 at Saskatoon, SK.
See our web page for more information:
http://www.usask.ca/psychology/sarty/rasc/raffle.html