

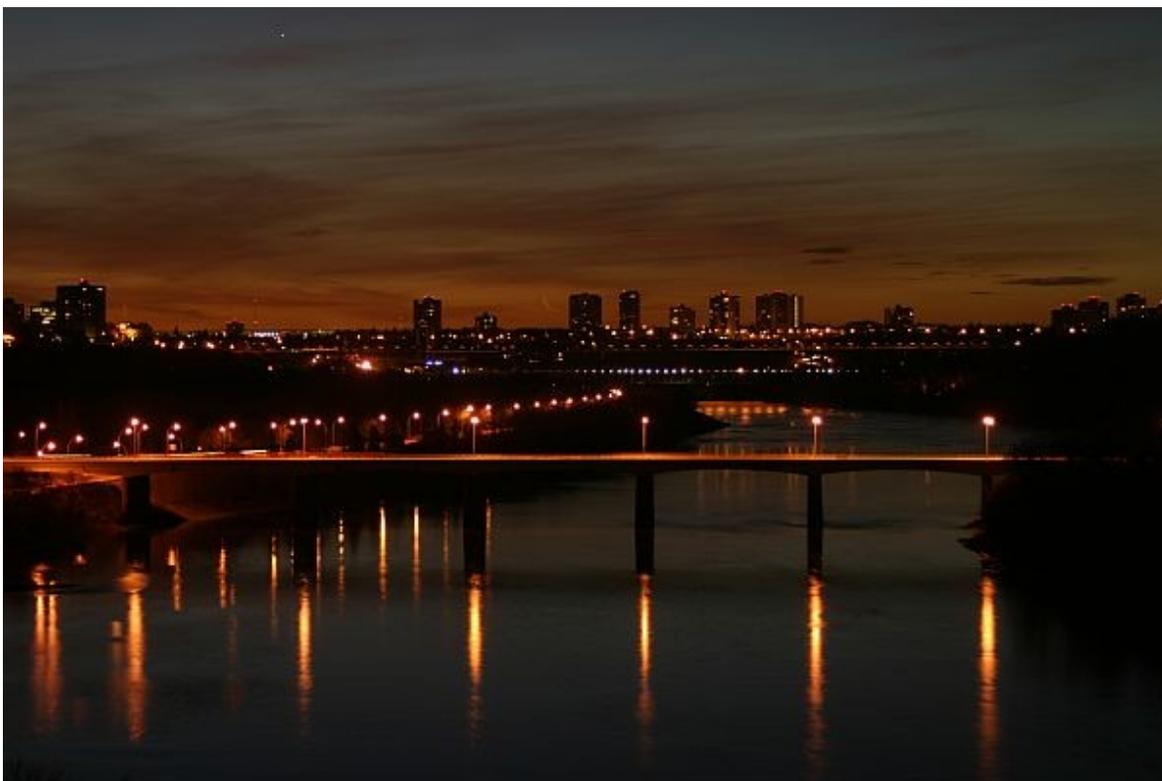
# STARDUST

Newsletter of the Royal Astronomical Society of Canada  
Edmonton Centre



November 2008

Volume 54 Issue 3



*Dawn October 27, 2008, as seen from St. George's Crescent, Edmonton. Mercury is in the upper left. Barely a sliver, the moon has just cleared the horizon (centre). Photo by Alister Ling.*

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## RASC Edmonton Centre Contact Information

<b>Council Positions</b>			
<b>President</b>	<b>Krista Stefan</b>		
<b>Past-president</b>	<b>Orla Aaquist</b>		
<b>Vice-president</b>	<b>Sherry Campbell</b>		
<b>General Secretary</b>	<b>Luca Vanzella</b>		
<b>Treasurer</b>	<b>Mark MacDonald</b>		
Co-National Council Rep	Alister Ling		
Co-National Council Rep	Patrick Earl		
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Fund Raising Coordinator	Franklin Loehde		
Councillor	Bruce McCurdy		
Councillor	Richard Vanderberg		
Councillor	Sheldon Helbert		
Councillor	Harris Christian		
Councillor	Ross Sinclair		
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Observers' Group Director	Paul Campbell		
Membership Secretary	Massimo Torri		
New Member Advisor	Murray Paulson		
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<b>Observing Deck</b>	452-9100 ext 2249
<b>Stardust</b>	Articles for Stardust may be submitted by email to <b>mward@interbaun.com</b> . Submission deadline is the last day of the previous month (e.g. for the May issue submit by 30 Apr). Submit as <b>Msoffice 2003 or earlier</b> (NOT MS xml/docx please) or <b>OpenOffice OR AbiWord OR plain text</b> . Please avoid use of fancy formatting, odd spacing, and strange fonts. Graphics (photographs, illustrations) should be submitted as separate files, and clearly identified.

**Edmonton Area Astronomy Discussions:** [astro@mailman.srv.ualberta.ca](mailto:astro@mailman.srv.ualberta.ca)  
**To subscribe send a blank email to:** [astro-request@mailman.srv.ualberta.ca](mailto:astro-request@mailman.srv.ualberta.ca)  
**with the subject line:** `subscribe`

*The above mailing list is completely independent and is not associated with RASC Edmonton Centre in any way.*

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## Upcoming Events, Meetings, Deadlines, Announcements

### Regular Meetings 2008

Telus World of Science, 11211 - 142 St, 7:30pm

Nov 10

Dec 8

### Council Meetings 2008

ATA Building, 142 St & 111 Ave, 7:15pm

Nov 24

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## MONEY MOTIONS AND OTHER BUSINESS

### I. CASINO FUNDS

Luca Vanzella moved and Bruce McCurdy seconded that \$4092.64 from the Casino Fund, left-over from the \$5000 originally approved for the University of Alberta Space Exploration Symposium held in 2008, be used to support the Symposia to be held in 2009 and 2010, as follows:

- i. The costs of the students' travel and their accommodation to attend the Symposium.
- ii. If monies are left over, they can be used to offset the cost of bringing in speakers for the Symposium. Subject to Gaming Commission approval. CARRIED.

Orla Aaquist moved and Harris Christian seconded that up to \$4000.00 from the Casino Fund be used to promote the International Year of Astronomy, subject to Gaming Commission approval. CARRIED with Franklin Loehde abstaining.

Orla Aaquist moved and Mark MacDonald seconded that up to \$5000.00 from the Casino Fund be used to fund a high profile speaker for the International Year of Astronomy, subject to Gaming Commission approval. CARRIED.

Orla Aaquist moved and Luca Vanzella seconded that up to \$4000.00 from the Casino Fund be used to purchase Galileoscopes for the International Year of Astronomy, subject to Gaming Commission approval. CARRIED.

Sherrilyn Jahrig moved and Alister Ling seconded that \$500.00 from the Casino Fund subject to Gaming Commission approval or if not approved by the Gaming Commission, \$200.00 from the General Fund be used to fund a prize donation for the City of Edmonton EcoVision "Lights Down Stars Up" public photography competition. CARRIED with Orla Aaquist opposing.

Massimo Torri moved and Alister Ling seconded that \$6000 US from the Casino Fund be used to purchase an SBIG ST-8XME CCD camera and an Imaging Source DMK 21AF04 planetary camera, subject to Gaming Commission approval. CARRIED.

### II. GENERAL FUNDS

Orla Aaquist moved and Bruce McCurdy seconded that the Centre order 250 RASC 2009 Calendars using funds from the General Account, funds to be recovered by selling the calendars to Centre members and others. CARRIED.

#### **For information only (under \$1500 involved)**

Luca Vanzella moved and Orla Aaquist seconded that \$367.50 from the General Fund be used to purchase a new set of business cards for the RASC Edmonton Centre. CARRIED.

Orla Aaquist moved and Harris Christian seconded that up to \$1000.00 from the General Fund be used to fund volunteer appreciation prizes for the International Year of Astronomy. CARRIED with Franklin Loehde and Alister Ling opposing.

Orla Aaquist moved and Massimo Torri seconded that up to \$300.00 from the General Fund be used to fund monthly meeting door prizes for the International Year of Astronomy. CARRIED with 3 opposing.

### III. OTHER BUSINESS

PROPOSAL CANCELLATION: Patrick Earl moved and Massimo Torri seconded that the Centre cancel the proposal, approved by Council on Nov 26 2007 and by the Centre on Jan 14 2008, to use \$7500 from the Casino Fund to establish a Youth Committee within the RASC Edmonton Centre to introduce and/or educate youth in our region to the value of all aspects of astronomy and allied sciences. CARRIED.

Bruce McCurdy moved and Franklin Loehde seconded that Howard Gibbins be commended for his years of service to the Centre. CARRIED.

Orla Aaquist moved and Bruce McCurdy seconded the IYA Committee be authorized to expend up to \$1500 from the General Account for the purpose of promoting the International Year of Astronomy. CARRIED.

Mercury spends most of November heading away from Earth to destinations around the far side of the sun. On November the 25th, Mercury arrives at superior conjunction, and if you could see it through the intense glare, it would pass 19 arc minutes below the sun. Over the month of November, Mercury does brighten as it gets closer to the sun and as its disk becomes full. At the beginning of the month, Mercury shines at magnitude -0.8, and has a 5.5" gibbous disk. In the week before the conjunction, Mercury will brighten to magnitude -1.2, and will show a 4.65" full disk. After conjunction, Mercury moves into the evening sky, and will make a leisurely ascent into it.

**Venus** sits low in the south west just after sunset, and shines at magnitude -4.0. You have to have a clear south west horizon in order to see it. It is bright enough that you can sweep it up in binoculars in bright twilight. At sunset, Venus sits almost 7 degrees off of the horizon, but the kicker is that it will set 1.5 hours after the sun. In the eyepiece, it will display a 14" gibbous disk. Venus is down in the bottom eastern corner of Ophiuchus, just above the back of the scorpion. Over the next month, it will move into Sagittarius, so it is not going to get any higher! It will expand in size to 16.9" and brighten slightly to magnitude -4.1 by early December. One highlight will be the conjunction of Jupiter and Venus on November 30<sup>th</sup>. Venus will sit 2 degrees below Jupiter at the time, and Jupiter will shine at magnitude -1.9. They will be closer than 3 degrees apart from November 28<sup>th</sup> to Dec 2<sup>nd</sup>. The pair sets 2 3/4 hrs after the sun, but they will never be far from the south west horizon. Just after sunset, Venus will sit 10 degrees above the horizon, and they will be 20 degrees west of due south, or a compass direction of 200 degrees.

**Mars** is lost in the glare of the evening sky. It is located in Libra and will move off into Scorpius by the end of the month. Mars will be in conjunction with the sun on December 5<sup>th</sup>.

**Jupiter** starts off November shining at magnitude -2.1, and

subtends an angular diameter of 36". At the time, it sits in eastern Sagittarius, just a little east of the handle of the "teapot". It is low in the sky in the south west when the twilight deepens enough that you can see it. Binoculars will help in the hunt. Although it is low, it only sets some 3:45 hours after sunset. By month's end, Jupiter will shine at magnitude -1.9 and will show a 34" disk in the eyepiece.

**Saturn** is in the morning sky, rising at 2:20 am in the first week of November. It sits below Leo, and shines at magnitude 1.0. In the eyepiece it subtends 16.5". By month's end, Saturn will grow to 17" and will rise at 12:30, but the thing that is worth getting up for is the razor thin inclination of the rings. On November 30<sup>th</sup>, the rings are inclined at -1.0 degrees. (The rings start off the month at -2.0 degrees) They will dip to a slightly shallower inclination over December before they tip back up in the new year.

**Uranus** starts off November shining at magnitude 5.7 and will fade slightly to magnitude 5.8 by the beginning of December. It will pass within 5 arc minutes of a magnitude 5.5 star - 95 Aquarius at the end of November. In the eyepiece you will see Uranus's 3.5" disk with the nice comparison to the Airy disk of the star. Uranus sets 8 1/2 hours after the sun, and transits just less than 4 hours after sunset. It is still well placed for early evening viewing.

**Neptune** has just moved around the elbow of retrograde and is now moving east again. Shining at magnitude 7.8 it is an easy binocular object 2 degrees above gamma Capricornus. In the eyepiece it is a 2.3" blue-green disk. You have to catch it early in the evening even though it sets at midnight, it transits the meridian just after 7 pm where it sits at 21 degrees above the horizon. By the end of the month, it will set at 10 pm. Use the Finder Chart in the handbook to locate Neptune among the stars of Capricorn.

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### **3 Iron Dynamos: The Magnetospheres of Earth and Mercury** by Dave Cleary, the third article in this series

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#### **Mercury**

Surprisingly, the smallest planet in the solar system has a magnetic field similar in many ways to that of Earth. First discovered in 1974 by Mariner 10, Mercury's magnetosphere has a strength of about 1.1% of Earth's but has the same dipolar character, aligned with its axis of rotation.

Its molten iron core dynamo is believed to be sustained by a combination of tidal forces caused by the high eccentricity of its orbit and 59 day rotation relative to the length of its year. The circulation of the liquid iron core gives rise to electric currents that in turn create a magnetic field strong enough to create a native magnetosphere. Mariner 10 and the current Messenger probe indicate the field is stable.

Mercury's magnetosphere is small, about the size of Earth, but strong enough to trap plasma from the solar wind. The bow shock, where the solar wind backs up against the strength of Mercury's magnetic field, is located about 1000 to 2000 km from the planet's surface. Due to its proximity to the Sun and the resulting strength of the solar wind it is believed that Mercury's small atmosphere may be generated through interaction between the solar wind and the planet's surface. This may also explain the observed space weathering of the surface. Mercury is unique in the solar system in that it has no ionosphere in spite of having a magnetosphere.

#### **Earth**

Earth's magnetic field has been known by human beings for at least one millennium, but perhaps as early as the time of the Olmecs, a pre-Columbian people, of approximately 1000 BCE. The Chinese are known to have been users of a magnetic compass after 1000 ACE. In 1835 Carl Friedrich Gauss was the first to actually measure aspects of the Earth's magnetic field including its strength, orientation in various planes, and developed a way to differentiate between aspects of the field emanating from crustal and core locations within the Earth.

Earth's field is a dipole, generated like Mercury's magnetic field by the convection of liquid iron and nickel in the Earth's outer core. Convection of this material is due to tidal effects caused by the Moon, residual heat from the formation of the planet, and the decay of radioactive elements. It is believed that the chaotic nature of the convection has caused periodic reversals of the field through history. Evidence found in rock at the edge of tectonic plates indicates that the timing of reversals averages 250,000 years but with the most recent reversal occurring over 700,000 years ago. The magnetic poles also wander about and do not remain aligned to the Earth's spin axis.

The magnetosphere that arises in the area of the Earth due to this field extends 13 times the Earth's radius (about 70,000 km) towards the Sun where it begins to deflect particles from the

solar wind (the bow shock location). Two concentric torus-shaped rings of energetic charged particles make up the Van Allen radiation belts, discovered during early space exploration in 1958. They are aligned with the magnetic axis. The two belts, an inner and outer belt, extend between 200 and 1000 km from the Earth's surface.

Earth's magnetosphere presents an obstacle to the solar wind typically about 190,000 km wide and extending anywhere from 80,000 km towards the Sun but varying to great distances on the night side of Earth well past lunar orbit to approximately 1.25 million km. The Moon itself has no magnetic field of significance having lost it approximately 3.6 billion years ago.

When plasma from the solar wind enters Earth's atmosphere above the poles collisions with atmospheric atoms of oxygen and nitrogen at altitudes above 80 km generate light emissions called aurora. In the 1859 solar superstorm, the aurora induced sufficient electric current in telegraph lines between Boston and Portland, Maine that operators were able to converse for two hours without battery power.

As our dependence upon electricity has grown over the past century and a half, the solar magnetic events of 1859 and more

recent years underscores the vulnerability of our planet to massive events on the solar disk and the role of our magnetosphere in shielding us from them. In 1989 a geomagnetic storm induced a massive power surge in transmission lines operated by Hydro-Quebec causing a power outage to 6 million people for 9 hours. More recently a massive coronal mass ejection from the Sun caused the loss of several satellites including one of Canada's Anik communication satellites. Another storm with the strength of the 1859 event today could cause many deaths.

Prior to the technological developments we depend upon today, Earth's magnetosphere protected life on the planet for eons. Without it, Earth would be a very different place as evidenced by the situations on Venus and Mars, the subject of next month's article in Stardust.

*Dave Cleary served on Edmonton Centre Council for a few years, and believes that being Secretary of the Centre is good for you, like fiber. Just ask Luca.*

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### Blotting out starlight: Upcoming Edmonton occultations: prime events by Alister Ling

We have a special asteroid occultation crossing Edmonton - the timing is impeccable, at 8:43:05 pm **during** the December meeting! Main belt rock 94 Aurora, glowing at mag 11.8 will occult a mag 11.5 star for a 0.7 magnitude drop for more than 15 seconds! If skies are clear and we have the electronic gremlins at bay, we should be able to pipe this event into the dome live from the deck. Details can be found at: [http://www.asteroidoccultation.com/2008\\_12/1209\\_94\\_13362.htm](http://www.asteroidoccultation.com/2008_12/1209_94_13362.htm). Coincidentally, the path crosses Vancouver very close to the same chord.

In any month, there are several dozen lunar occultations, with a handful are of interest if you are at the deck. An abridged list (bright and easy and before 2 am) for events through October can be found at:

[http://www3.telus.net/public/aling/total\\_occultations/Edmonton%20Total%20Occultations.html](http://www3.telus.net/public/aling/total_occultations/Edmonton%20Total%20Occultations.html)

The brightest lunar events (MST).

day	Time	P	Star	Sp	Mag	%	Elon	Moon	CA
y	m	d	h	m	s	r	eps	Ari	4.7
v ill Alt Az o									
08	Nov	12	18	58	59		175	25	87 -37S
eps Ari is double 5.2+5.6 1.5"									
08	Dec	8	19	33	27	D	130	48	149 76N
101 Psc is double 7.0+7.0 0.10"									

We have some decent asteroid events scheduled through the winter and spring, so with a little luck we'll have lots to show you at the meetings. Keep an eye on the email for updates. Good observing!

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### Crescents and Full Moon Photo-Ops by Alister Ling

This fall has been very good for city-lunar lineups. We got the September Harvest Moon and the October Hunter's Moon. For a pre-Halloween treat, I saw two sweet old Moon rises from St. George's crescent during that last week of October. I've always been partial to dawn events in the way that darkness turns into light surprisingly fast and inevitably lift one's spirits. I also realized that I don't have a particularly low western horizon

vantage point to work with. Luca and I caught a particularly crooked crescent rising like a pink contrail on the morning of the 27<sup>th</sup>. Another thing I learned is not to leave your camera on automatic exposure because sometimes it will shift a half stop one way then another, resulting in a flickering time lapse! The complete list and where to best see them from can be found on my website at:

<http://www3.telus.net/public/aling/photosite/upcomingevents.htm>

The following are the best ones, note that some are morning events and that there are no reflections of the sunrise from the buildings:

yyyy/mm/dd	hh:mn:ss	Sol Az	Alt	Lunar Az	Alt
2008	11 12 16 35 45	239.0°	-0.2°	61.3°	5.3° 100+ 174.6°:

From Valleyview Drive, this is above the Bell Tower. The altitude should be just right, in that it has climbed enough before the foreground gets too dark.

yyyy/mm/dd/hh:mn:ss Sol Az Alt Lunar Az Alt  
 2008 11 13 08 03 41 121.6° -0.0° 301.7° 6.2° 100- 173.9°:

From the Connors Road trail head this is smack over central downtown, but equally nice will be the view from the Cloverdale Hill bench.

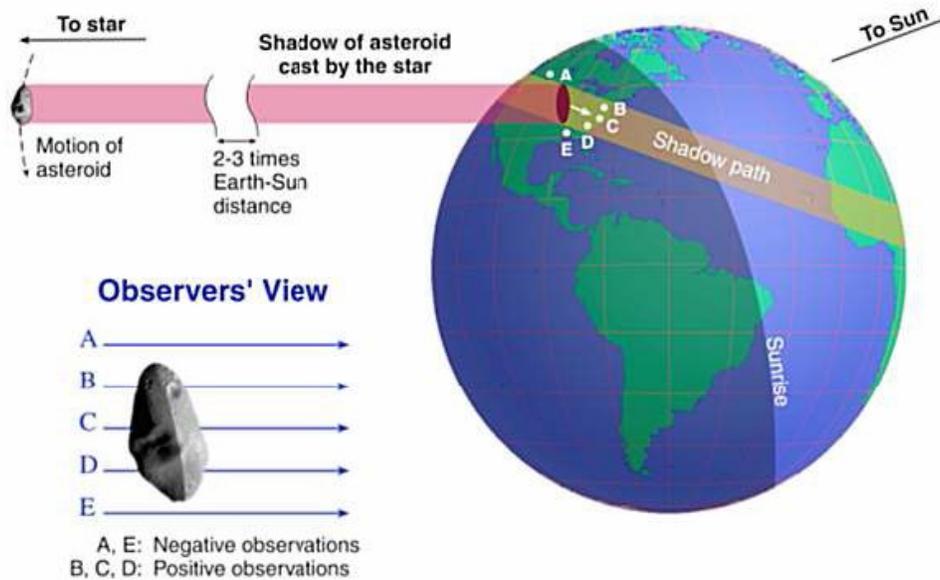
**Edmonton Centre observers measure asteroid 111 Ate by Alister Ling**

It's not often you can say you've outdone the Hubble Space Telescope. But we did just that, thanks to a wonderful team effort from a handful of our members. We successfully measured the size and approximate shape of main belt asteroid 111 Ate. Back in spring, I was contacted by Texan Paul Maley who told me he was flying to Edmonton specifically to record this occultation! Apart from the fact that this was the best event of the year for Edmonton, it fell on a Saturday evening in August. The least we could do was get a handful of locals out to make as

good a go of this as possible. Luckily it was not on a star party weekend!

Until they are actually measured, asteroids are given a size based on their infrared and visible light properties. Most of you have seen pictures of Ceres and Vesta taken by the Hubble space telescope – the nearly round objects of 900 km and 500km are a couple of dozen pixels across. Before August 24<sup>th</sup>, Ate's approximate size was listed at 135km. So how can a bunch of amateurs do better? Only the shadow knows!

**Geometry of an Asteroid Occultation**



Geometry of an asteroid occultation: The asteroid eclipses the star and its shadow is projected onto the Earth's surface. Observers B,C, D on Earth see the asteroid block "occult" the star for several seconds while observers A and E are outside the shadow path and do not observe it. This lack of seeing the event is termed a miss. From the IOTA Occultation Observer's Manual

On the ground, we set up a "picket fence" and record how long the background star disappears from view. Software then analyses the results to turn our duration and position measurements into the asteroid's size and shape. When we work as a team, those reporting a miss (A and E in the diagram) make a significant contribution, because if we all got a "hit", we still would not know how big the asteroid was. By design, we send observers to the miss zone. In practice, the path of the asteroid is not perfectly predicted due to uncertainty in the asteroid's orbit as well as the position and proper motion of the background star (yes it moves too!). It often happens, and it did this time, that the path shifts, so that the observer A sees an event while D gets a miss.

The spacing of the chords, or pickets, in the fence depends on the size of the asteroid and the number of observers on the

team. Reality distorts the picture by throwing in topography (accessibility), driving distance, time of night, day of the week, mobility of the observers, and of course weather. In the end, it's better to have two closely spaced chords than only one result. Finally you never know until afterward who looked at the wrong star, didn't get set up in time, or had some form of equipment failure – and it's a long list of things that Murphy can nail you with!

Before summer began, Barton Satchwill volunteered to take Paul Maley to the predicted center line and loan him his 8-inch SCT. I knew that Massimo Torri and Ross Sinclair were going to be at the TWOSE Deck using the Mallincam, while Bruce McCurdy was the Observatory "Captain". Since I already had recorded a few successful occultations, I volunteered to do the "sacrificial drive" to the predicted limit at Slave Lake Provincial Park to potentially record a miss. Wayne Sanders from the Prince George Centre, although en route to Cypress, left instructions back home for observers in case the path shifted north to cover them. With a week to go, Mike Noble said he would take a spot near Pigeon Lake (where he would be doing CCD imaging) while Mike Hoskinson was going to watch it from his Hastings

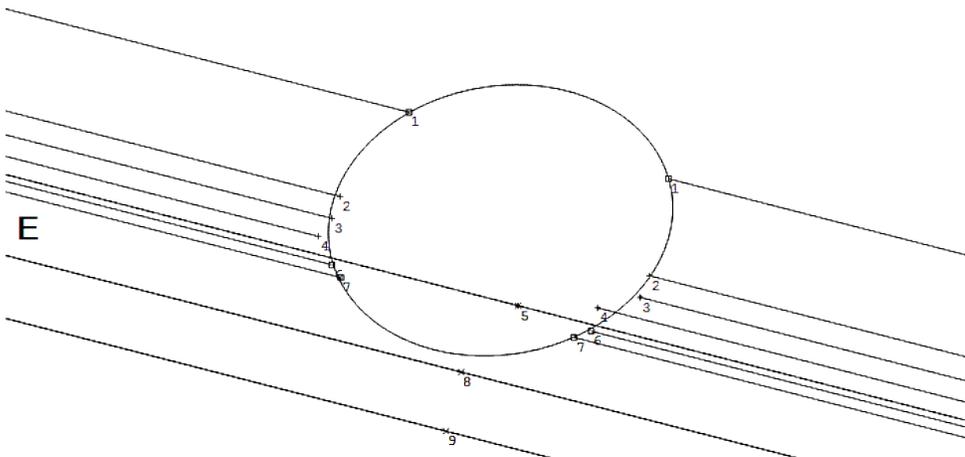
Lake observatory.

I organized a Friday supertime meeting at Boston Pizza the night before the event to confirm which observers were going where. In the growing enthusiasm, we picked up Paul and Sherry Campbell, Sharon Tansey, Murray Paulson, Sherrilyn Jahrig, Larry Wood, and Stephen Bedingfield (en route to Cypress Hills from Yellowknife!). And why not have a Saturday lunchtime barbecue as well? The gatherings were great opportunities for people to learn more about chasing, including the crown jewel of occultations, the total solar eclipse. Paul Maley's prime hobby is being the lead organizer for Ring of Fire eclipse expeditions.

Although Prince George was clouded out, the Alberta side enjoyed near-perfect weather. Both Mikes endured equipment problems which is why you don't see them on the observer map. In the rising panic of technological problems, we sometimes forget that it is better to get an audio timing on a voice recorder than nothing at all. Lesson (hopefully) learned.

At the deck, Bruce watched through a telescope while a small crowd (sorry I don't have names) gathered around the TV monitor that Massimo and Ross had set up to display the output

(111) Ate 2008 Aug 24 147.9 ± 1.4 x 114.3 ± 3.0 km, PA -79.5 ± 5.2  
Geocentric X -2341.3 ± 0.6 Y 5529.9 ± 0.8 km **N**



Although Barton himself did not have a second scope to watch the event live, he said it was quite illuminating watching a "pro" at work. Paul had a single-minded focus on observing the event with a plan B and plan C ready in case there was any equipment problem, all the while cycling through the check list yet again.

An unexpected bonus from this event is having made contact with an observer from Red Deer: Bob Gosselin. When

### Observers Report by Paul Campbell

I should have reported on this last month, but I forgot. The big news is that a fellow Albertan has discovered a comet. **Bob Cardinal** of the U of C discovered a comet while looking for asteroids near our north celestial pole. For us in the northern regions our best chance to look at it is before Perihelion which

from the Centre's Mallincam. This gizmo has the capability of integrating, or stacking exposures on board, and release the output a second later, so Bruce had the interesting experience of watching the star's light disappear a whole second before the crowd nearby burst out in a cheer!

Thanks to the determined mathematical effort of Mike Hoskinson and Massimo Torri, they extracted good event times from the output – the camera was not supposed to be in integration mode, and could have resulted in a much lower precision than what a visual observer is capable of! Speaking of which, with all the excitement, Bruce forgot to bring his recorder and no one had set up the WWV time audio signal. If Murphy had hit hard and taken out the Mallincam, we would have achieved the notoriety of greatest number of observers witnessing an event with no data to show for it. But even if that had happened, the thrill and fun of the experience would have still been worthwhile.

Over the next few days, we analyzed our recordings, sent the data in to IOTA's Brad Timerson, who used Dave Herald's Occult software to produce the cross-section of 111 Ate:

Find best fit

Center X 3.0 0.0  
Center Y 21.9 0.0

Major axis (km) 147.9 0.0  
Minor axis (km) 114.3 0.0  
Orientation -79.5 0.0

Double star  
Seprn (masec) 0.0 0.0  
PA of 2nd 0.0 0.0

Both  Primary  Secondary

Circular  Include Miss events

Plot scale  Quality Not fitted

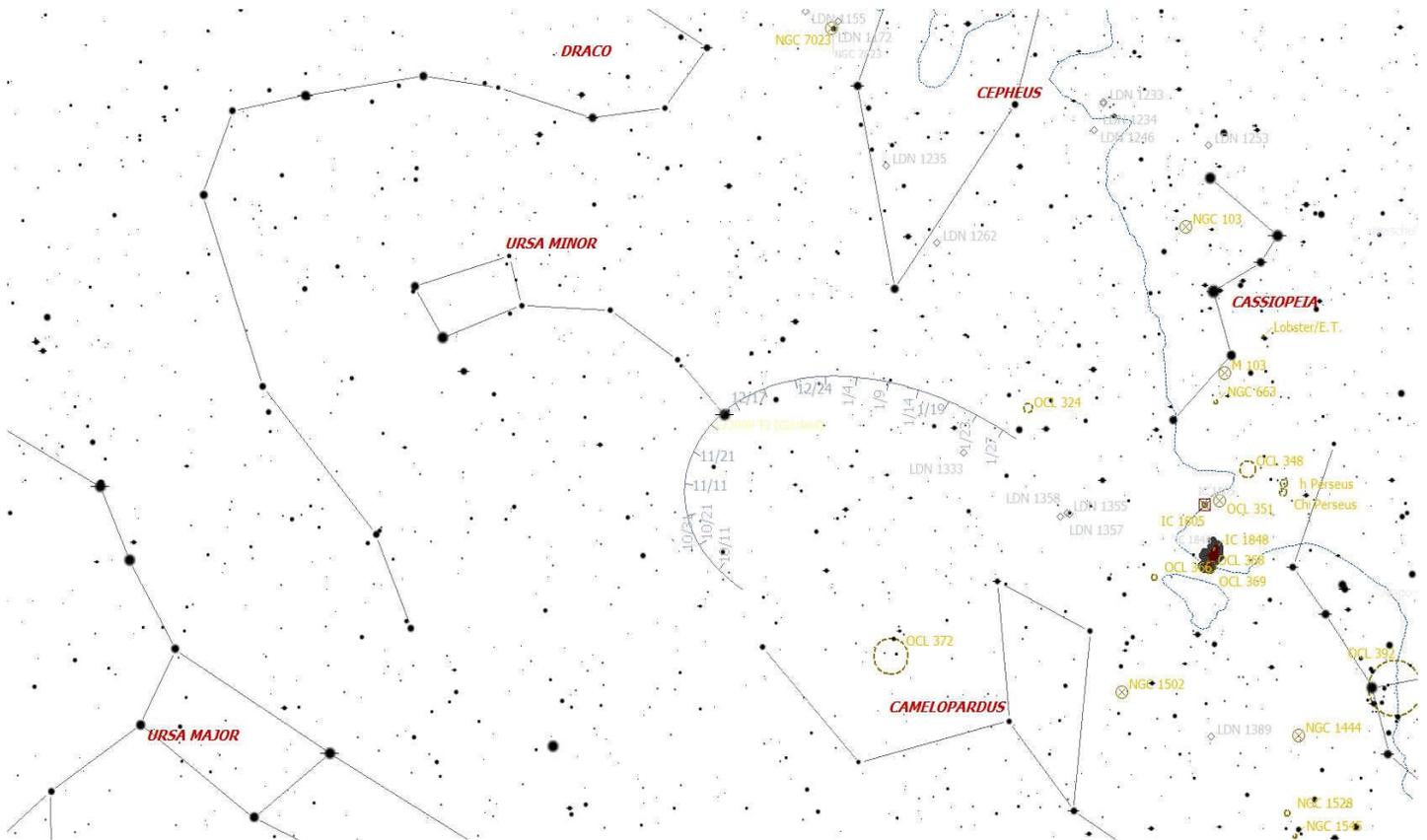
RMS fit -0.2 ± 2.4 km

1	A Ling, Slave Lake, Alberta, CAN
2	M Paulson/S Tansey, Dapp, Alberta, CAN
3	S Bedingfield, Westlock, Alberta, CAN
4	L Wood, Edmonton, Alberta, CAN
5 (P)	Predicted Centerline w/Time,
6	P Maley/B Satchwi, Bruderheim, AL, CAN
7	M Torri, Edmonton, Alberta, CAN
8 (M)	P/S Campbell, Edmonton, Alberta, CAN
9 (M)	B Gosselin, Red Deer, Alberta, CAN

the opportunity presents itself, he said he would take the southern limit, saving us from a longer drive and of course providing another chord.

You may be wondering "doesn't the asteroid rotate as it moves?" Yes, but most of these events take only a few minutes to cross the face of the Earth, so it typically does not matter. But an extraordinarily well-observed event spanning continents could reveal a change in shape, though this has yet to be done.

occurs on June 13th, 2009. Right now it's not excessively bright with only a magnitude of 13.5. According to The Sky 6.0 it will reach a magnitude of 8.2 by mid March where it will be nicely placed in our western sky. Here is a chart for it centered around December 1 2008. Have fun going for this one.



For me, I had a great time observing the Sun on November 1st. For me it was the first time in a long time that I could spend some time on the Sun. There was a small active region in the northern hemisphere and it even had some activity. I was able to observe an actual A1 class flare. Also letting me know of the action were Joanne Paulson and Denis Fell. Denis Fell has some photos at his web site, [www.spacealberta.com](http://www.spacealberta.com).

October had lots of clear nights but they were mostly during the week, when a lot of us cannot make it out. Larry Wood and Sharon Tansey made it out however and they gave me the following report. Thanks Larry and Sharon.

*Sharon and I arrived at Blackfoot within a couple of minutes of each other at 8:00 on the evening of Oct 23. The sky appeared quite milky with some high haze.*

*After a casual setup I pointed my scope at Cepheus and attempted to make a quick find of the Comet C/2006 W3 (Christensen). It took a few minutes as it was buried in the Milky Way (about 30 mag 9 stars -- one missing). Finally got the FOV and quickly spotted the small (1' Dia) round fuzz ball with a little brighter core ~mag 10.5. Boosting the magnification to 220x only marginally improved the view. This Comet is brightening and will be high in our sky until mid-summer so go out and find it now so you can follow it.*

*My second search was for another comet - C/2006 OF2 (Broughton). This one is in Lynx right now at mag 10.8 it is fairly easy to find. pretty faint coma 2' diameter, w/ a small brighter core. A definite compressed right (west) edge with a very faint hint of a very short tail opposite. This comet was easily seen at 100x but a boost to 220x and using averted vision showed a very pleasing object. This guy is slowly receding but should be observable high overhead for a couple of months.*

*Sharon then wanted to have a look at NGC 3172 (Polarissima Borealis) - one of the Deep Sky Challenge list. So after a bit of sorting out (no Polaris's companion is not plotted in Uranometria) I finally found the correct FOV. It has been many many years since I last hunted this one up. I remembered there was a wide double star involved (base of a Y), two mag 11 stars (one at each top point of Y), and a mag 13 star at the middle of the Y with the galaxy just above it. At 220x using averted vision the faint face-on became quite obvious. Certainly a challenge worth exploring.*

*Sharon was chasing mostly little open clusters in Cass. Cz 43, NGC 7790, NGC 7788, NGC 129, M103, NGC 7789, and M52. Saw just a hint of the Bubble with the O111 filter. She couldn't see IC 10 and King 20.*

Once again, thanks for your report Larry.

### President's Report by Krista Stefan

This month I have a few business reminders for member. First, following the October 27th Council meeting there are a number of money motions for the members to consider at the December meeting. The list of motions that were approved by

Council and needing to be approved by the general membership is included in this issue of Stardust. As well, a few that were approved by Council but are within the council spending limit (and so will not need to be approved by the membership) are

presented for your information.

We are fast approaching the end of our year, and at the January 12th Annual General Meeting most of the positions on council will have their current term end. If you would like to serve on council or have suggestions or nominations please

- The President's Award for Service to the Centre
- The Observer of the Year Award
- The Angus Smith Award for Excellence in Telescope Making and Design
- The Bryce Heartwell Memorial Award for Excellence in Astroimaging
- The George Moores Memorial Award for Excellence in Public Education
- The Franklin Loehde Award for Project of the Year
- Previous winners of these awards are listed on the Edmonton Centre webpage.

We are starting to gear up for the International Year of Astronomy in 2009 and events will be posted in Stardust as well as on the Astro list and will be announced at regular meetings.

contact Sherry Campbell or Orla Aaquist.

I'd also like to remind members that soon I will have the privilege of presenting our annual awards. I would certainly entertain suggestions for the following awards:

Stay tuned for a wide variety of opportunities to participate in these activities.

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### **Sidewalk Astronomy Galileo Moments – an IYA Project** by *Luca Vanzella*

One of the Canadian National Node initiatives for the International Year of Astronomy (IYA) is the Galileo Moment, which is to promote and help organize opportunities that allow more than 1 million Canadians to experience with their own eyes some of the marvellous objects in the heavens that are invisible without a telescope or binoculars.

astronomy program for 2009 to provide the "Galileo Moment" to as many people as possible. In the spirit of IYA, I believe it's incumbent upon us RASCals to share our scopes and our knowledge with folks around us. Interested volunteers please contact me at [luca@vanzella.com](mailto:luca@vanzella.com) or see me at an RASC meeting.

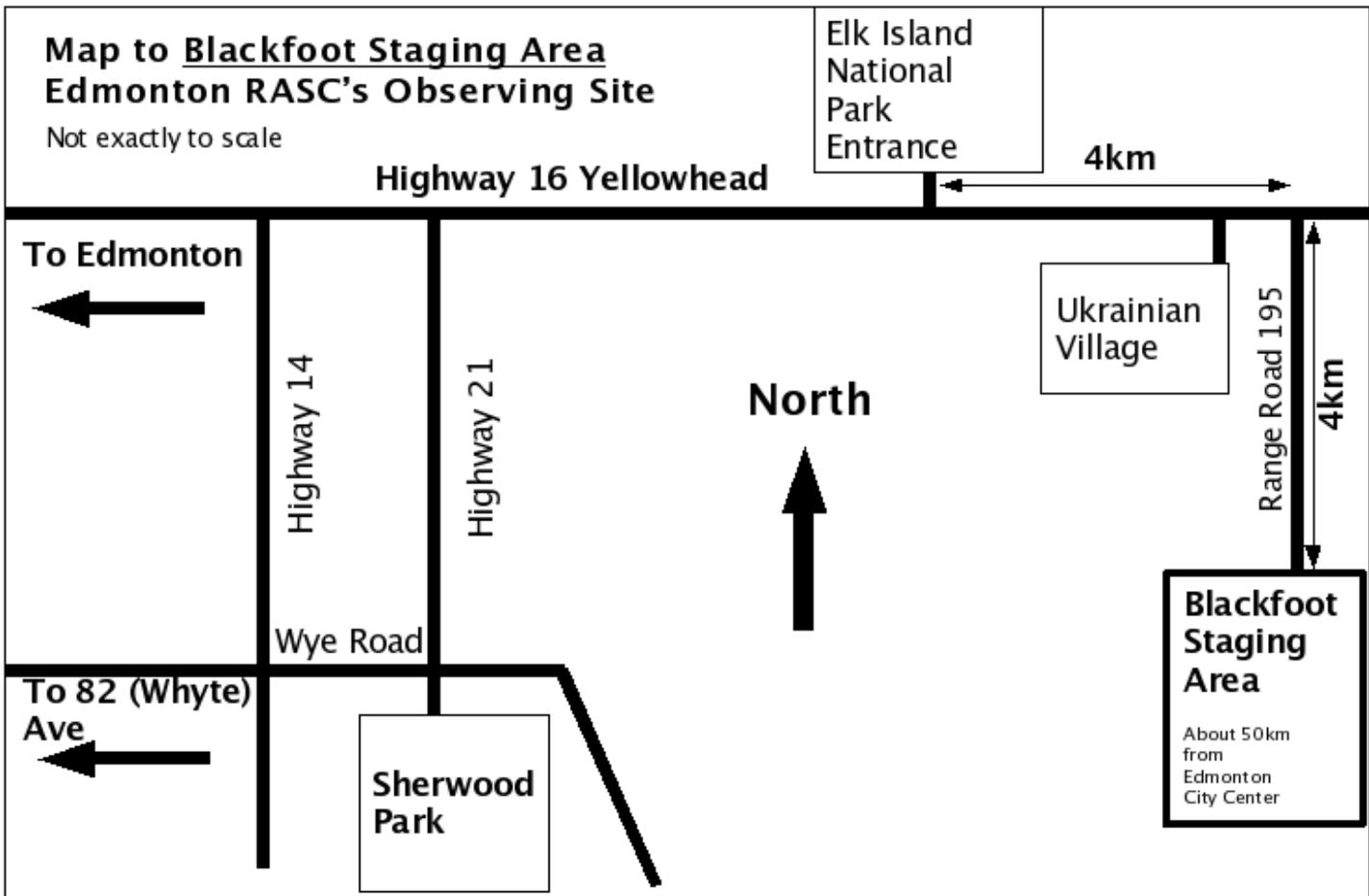
I'd like to enhance the RASC Edmonton Centre's sidewalk

The setup I envision is this:

- One or more Sidewalk Astronomy Galileo Moment (SAGM) teams conduct sidewalk astronomy around Edmonton throughout 2009, typically around the time of the first-quarter moon or full moon.
- Each SAGM team consists of 2-3 volunteers, each equipped with a telescope.
- Each SAGM team could have a Galileoscope, a modern small refractor (e.g., 80-90mm), and a larger Newtonian or Catadioptric. Let people look at the Moon through a Galileoscope first, then it's "Now get a load of this!"
- The main targets are what Galileo looked at (i.e., the objects with the most wow factor): First Quarter Moon, Saturn, Jupiter. Other objects would be at the discretion of the SAGM teams.
- Observing locations could include pedestrian areas like Old Strathcona, The Promenade, a mall parking lot, or events such as Folk
- Fest, UofA open house, Symphony Under the Stars, etc.
- Venetian attire circa 1609 optional.

How many SAGM teams there are depends entirely on how many people volunteer for this. I am volunteering to be on one of

the teams, coordinate the teams, maintain and update the schedule on the IYAE calendar, and collect reports from teams.



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