STARDUST

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Newsletter of The Royal Astronomical Society of Canada
Edmonton Centre
February 2003
February 2003

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Address for Stardust
Articles may be submitted prior to the deadline
by e-mail to: stardust@edmontonrasc.com
or by mail to: 333 Southridge N.W.,
Edmonton, Alberta, T6H 4M9.
The phone number is: (780) 433-1516.

In Memorial
The brave crew of STS-107, who gave their lives in the advancement of
space exploration. (l to r): Mission Specialist David M. Brown, Commander
Rick D. Husband, Mission Specialist Laurel Blair Salton Clark, Mission
Specialist Kalpana Chawla, Payload Commander Michael P. Anderson,
Pilot William C. McCool, and Payload Specialist Ilan Ramon. Photo courtesy
of NASA. www.nasa.gov

March
submit your articles for the
March issue of Stardust by the
due date of February 24, 2003.
Thank you.

On the
Cover:
President's Message

By David Prud'homme

It is indeed a pleasure for me to be your new President, and to be working with a team of energetic and enthusiastic Council members.

I have profited from my association with RASC Edmonton Centre and the hobby of astronomy in many ways. I had no idea that Edmonton Centre even existed until I wanted to buy a telescope and started looking for information. The advice and guidance I received was invaluable, and over the subsequent years – through our meetings, our various speakers, books (several from our own library), Star Parties in Alberta, Saskatchewan, and Ontario, and a National General Assembly – my astronomical horizons have been broadened to the previously unimaginable. I would not be enjoying astronomy as much if it weren't for my association with the RASC, and Edmonton Centre in particular. And I want to pay that back! While I can't directly pay back the very people who have helped me, I can – with the dedication of our new council – spread that joy and knowledge yet further.

I have a two-fold theme for my tenure as your President. As I told Council in January, first, I believe in promoting our hobby within our ranks – giving you, the members, the tools and ideas you need – and sharing the splendours of the universe with the public. I would also like to find ways to include more youth in our activities.

Second, I want to provide accountability and transparency to you, the membership, about what Council does.

You have given us your trust, and I want to ensure that trust is respected and deserved. My Council has already demonstrated that they, too, are committed to that goal. I closed my comments to them by saying, "Let's handle the business end in our Council meetings, and keep our general meetings as fun and informative as possible – for the membership and for each other!"

Our universe awaits us. Let's take advantage of the breadth and depth of knowledge about almost anything related to astronomy that resides in our various members, and let's all enjoy this tremendous beauty we have right above our heads, and literally all around us. And let's enthrall others what there is, if they'll simply look up – and perhaps through one of our scopes.

The old adage is that "none is so blind as he who will not see," but the truth really is that "none is so blind as he who doesn't know to look up."

Look up! Behold! And share!
It’s official...we are your new Librarians. When the nomination list was first published, and people were exclaiming, “So, you’re the new Librarians” we were quick to remind them that other nominations might arise from the floor at the January General Meeting. They laughed. Next, we reminded them that Council would have to vote us in (or out) after that. There was still hope. They laughed harder. But seriously, we are thrilled to serve as Librarians for 2003. We look forward to the challenges ahead...the first of which will be to get to know all your names.

On the Saturday after the January RASC meeting, Bill Kunze was kind enough to give us a superb orientation to the Library along with a tutorial on cataloguing the new books received from Cambridge University Press. For those of you unfamiliar with Cambridge, they donate wonderful books to our club under the agreement that club members will write book reviews, which are then submitted to Cambridge.

CALLING ALL VOLUNTEERS! Here are the latest titles to peruse during this cold winter season:

Detection of Light; from the Ultraviolet to the Submillimeter – Rieke, November 2002 (20.031)
How to Use a Computerized Telescope: Practical Amateur Astronomy, Volume 1 – Covington, 2002 (12.029)
Celestial Objects for Modern Telescopes: Practical Astronomy, Volume 2 – Covington, 2002 (12.003)

Photographic Atlas of the Moon – Chong, Lim & Ang, 2002 (02.030)
Meteors in the Earth’s Atmosphere – Murad & Williams, 2002 (18.039)
Asteroid Rendezvous: NEAR Shoemaker's Adventures at Eros – Bell & Mitton, Sept, 2002 (18.040)
The Moonlandings: An Eyewitness Account – Turnbull, 2003 (17.015)
Exploring Space, Exploring Earth: New Understanding of the Earth from Space Research – Lowman, 2002 (17.014)

Challenge Books:
Calendrical Tabulations, 1900 – 2200 – Reingold & Dershowitz, 2002 (20.030)

(Bruce has already graciously volunteered to review this tome—thank-you!)

A special thanks goes to Bill Kunze, Harris Christian, and to all those before them, for all the work they have put into the library over the last few years. We have a fantastic collection and it is evident that it has been well looked after. This makes our job as incoming Librarians much easier!

One final note: Really, Kevin and I are nice people. Come talk to us. Already we have experienced the guarded hellos, averted vision, and bowed heads followed by apologies on unknown library sins committed. Look, we are new to this library scene.... we have no idea who has tardy returns.... YET. You give yourself away by the above behavior, particularly when you RUN away from our general direction. We do not want to spend the next year being circumvented by the general membership. One could start to develop a complex, you know. This year must already be looking up for Bill and Harris as you renew acquaintances with them!
14-1/4" F/5 Newtonian in immense fork mount. Coulter mirror re-figured by Barry Arnold. Fiberglass tube, Novac mirror cell, 50mm finder, 2" spiral focuser. Fork and base of 1/4" and 1/2" steel plate, 1-3/4" declination shafts, 2-15/16 polar shaft, 22 inches between tines. Will sell items separately.

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home e-mail: unykr@telusplanet.net

Roman G. Unyk

The SCIENCE shop is proud to present
Alan Dyer
co-author of
The Backyard Astronomer’s Guide
Book Signing with Purchase
February 22, 2003
1-4 p.m.
316 Southgate Centre
Edmonton, Alberta
435-0519
As I wrote in my last Observer’s Report, I noted that this winter must be one of the worst in my experience for observing. Cloud, cloud and more cloud combined with temperatures ranging from above melting to −30°C have made for exceptionally poor observing conditions. I have not had my telescope out to a dark site in what seems like forever. I’m an addict and I need a fix! When I have set up my telescope, the sky has gone from poor to terrible in the space of an hour or so. What have your experiences been?

Jupiter’s Satellites – Callisto

My observing has been mainly limited to the city, where only the bright objects such as the naked eye planets and moon are easily seen. Mind you, Saturn is about as well placed as it ever gets at this latitude, and Jupiter likewise. Venus is interesting in the morning. The geometry of the Earth, Sun and Jupiter is now such that all the moons will cast their shadows on the surface of Jupiter as they go around. I, for one, have never seen a shadow transit of Callisto. For the last few years the geometry has been such that Callisto’s shadow has missed Jupiter, but now various phenomena are occurring. According to *Sky & Telescope*, February 2003 issue, page 112, there will be a number of events involving Callisto on the evening of February 19 local time. Check it out! Let’s hope it is not cloudy.

Nevertheless, one must be prepared for that moment when observing conditions do improve. I find it a real treat to have a night of good observing conditions after a long spell of poor weather. Makes me feel refreshed. So, what shall we look at when conditions do improve?

Deep Sky Objects – Open Clusters

I find that the winter and spring skies contain some of my favourite deep sky objects. The outer edge of our Milky Way from roughly left of Sirius, up through Gemini and Auriga contains a great number of open clusters. One of the major advantages of this area of the sky is that it is at a convenient elevation from the horizon at this time of the year at our latitude. In addition to a whole bunch of open clusters, the area contains a number of Messier objects in Auriga and Gemini, and some more to the left of and below Sirius.

The area around Sagittarius has a large number of deep sky objects, but at our latitude, it is in the muck, and in Summer time the sky never becomes astronomically dark.

Monoceros

As dull and boring constellations go, Monoceros is got to be well up on someone’s list. If you can’t remember where Monoceros is (I sometimes have trouble), it is roughly the area where there are no stars, enclosed by the “winter triangle” of Procyon, Betelgeuse and Sirius. But there are at least a couple of interesting objects concealed within this rather indistinct constellation. The star Beta-Monoceros is a very cute multiple star. Actually there
are three stars visible in Beta-Monoceros of roughly equal brightness; all strung out in a wiggly line and nicely bunched up. This feature makes Beta-Monoceros different from other multiple stars, where, if there are three stars in the association, the third is either very distant or faint. For example compare Beta-Monoceros to Alpha-Gemini where two stars form a close double, and a third is rather distant. I find this less appealing to my eye than the three roughly equal brightness stars of Beta-Monoceros. Although when I was looking at Alpha-Gemini from my back yard the other night it looked OK. Maybe my taste in multiple stars is changing. What do you think of Beta-Monoceros and Alpha-Gemini?

Beta-Monoceros is easy to find as it makes a very squat isosceles triangle with the bottom bright two stars of Orion. The far right corner of the triangle is Rigel, the upside down apex is the star who's name I can't remember, but you all know what it is, and the left hand corner of the triangle is Beta-Monoceros. Think now of the same style of triangle with the top two stars of Orion but with the apex of the triangle up. The apex is Betelgeuse, the right hand corner is the other bright star on the top right hand side of Orion who's name I can't remember, but you know what it is, and now the left hand corner of this triangle is at the position of the Rosette Nebula. Even in my 8"f/6 from Blackfoot, I can see the faint glow of the Rosette Nebula in a low power eyepiece. The Rosette is a big object, so use low power. An OIII filter will help the contrast a lot. There is an open cluster; NGC 2244 imbedded in the nebula. It looks great through the club Telescope.

I don't know how you find objects in the sky, but sometimes I find these triangle-type patterns helpful.

Telescope Construction

The poor observing conditions have had one advantage — I have had lots of time to construct a new telescope. It will be an 8"f/6 like my present one, but since the optics are being made by Barry Arnold of our club, the optics will be excellent. My present 8"f/6 is of the Celestron flavour, and has poor optics. The secondary mirror is too small for the position of the eyepiece; so it doesn't illuminate the eyepiece as well as it might, and is "dim" for an 8". I've done comparisons with other 8" scopes at Blackfoot and the effect is obvious. Equally obvious is the interesting star test. The scope focuses stars to blobs, the size of which depends on brightness. Anyway, soon this annoyance will be behind me. Right Barry?

Mutual Events of Jupiter’s Moons

I still have yet to observe one of the mutual events of Jupiter's moons. It is not because I'm lazy or anything like that, I have all the excuses lined up, but... still, it is the weather. Or maybe it is really is the idea of getting out of a warm bed, at the wee hours of the morning, and freezing nearly to death squinting at some fuzzy image through a cloudbank of haze and aurora. Hum... Did I write that? No! It must be the Editor!

Ha! Nice try, John. -ed
Light Pollution Report

By Scott Henderson

As the new Light Pollution Abatement Committee Chair, I'd like to take this opportunity to briefly introduce myself, and to discuss some of my plans for the committee for this year.

I'm 35 years old, and was born here in Edmonton. I'm married, with two children, I work as a Senior Project Manager for Fujitsu Consulting Inc., and I own VELOCITEES Inc., an astronomy-related products company (www.velocitees.com).

Thanks to the work of the International Dark Sky Association, in which the Edmonton RASC holds an organisational membership, many people are starting to learn about what light pollution is, and what can be done about it. One look at the night sky over Edmonton, however, shows that there is still a very long way to go.

Correcting light pollution is a challenging problem. I equate it to the loss of agricultural land due to urban sprawl. Only the displaced farmers really notice that some of the best soil to grow crops on is buried beneath our neighbourhoods. Only the astronomers and people who've moved in from the country really miss the stars. Few people give it more than a second thought. As long as people can drive out of town to see the stars, the reasoning goes, what's the problem?

Of course, the stars we can no longer see over Edmonton aren't the problem at all. It's a symptom: a symptom of poorly designed lighting. This bad lighting creates glare, making it hard to see, and it burns electricity for the sole purpose of illuminating the sky. This wasted power means that we burn more coal than what is really required, resulting in additional air pollution. While the debates over whether global warming is real or not will continue until the second-from-last inhabitant on Earth sinks beneath an endless sea, few can argue against the benefits of clean air.

So what can we do? Lots! First, we can make sure that people who already have an interest in astronomy learn about light pollution. We've already been doing this, by having leaflets on hand at the Observatory for people to take home with them, giving them steps that they can follow to make their homes and businesses "Star-Friendly".

We can make sure that the children studying Astronomy in Grade 6 learn about light pollution. This can be done through working with the schools and Alberta Learning to ensure that light pollution is part of the Grade 6 Astronomy course.

We can participate in environmental events, like Earth-Day, to spread the word to a wider group of people.

Also, we can establish programs to award businesses and government agencies for steps they take towards eliminating light pollution. Businesses are always looking for a way to distinguish them from the competition. Being identified in a press release as being "Star-Friendly" would be a nice pat on the back for businesses that did it right when they set up their exterior lighting.

These are all possible ideas as to ways we can further educate people, and get people to take steps to reduce light pollution. To make these ideas a reality, however, I need your help. Rather than asking people to join the Light Pollution Committee, and attend meetings around it, I'd rather just have a list of people who'd be interested in helping out somehow, so when we have some work to do, like setting up a booth at Earth Day, I can just start calling people. Then, you only have to commit to helping out on that task or not, and you aren't getting yourself into something that is going to require more of your time.
than you're willing to give. If you're interested in helping out, please email me at velocitees@telusplanet.net

As my first call for help, I'm looking for something I've never seen: I'd like to have two photographs, of the same part of the night sky, taken from the same location within Edmonton, with identical exposures, lenses and film, separated by as much time as possible. I realise the film aspect of this may be a challenge, as emulsions are always changing. However, if you have an old astrophoto from some part of the city, even just a short exposure of a constellation, and you have the ability to retake that shot today, I'd greatly appreciate hearing from you.

If you have any ideas around light pollution, and ways we can fight it, feel free post them on the astro list, or email me directly. (velocities@telusplanet.net).

Thanks in advance for any help you can offer. I hope to serve the club well over the next year.

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**Introducing....**

*By Sharon Tansey, New Member Advisor*

As part of a plan to help new members integrate into our centre, I want to introduce them as I find out about them.

This month I would like to introduce Rod Mitton.

After years of looking at the night sky with *Night Watch*, Rod joined Frank Florian's Continuing Education class to look for help with identifying the constellations. Frank's class left him wanting more, his brother gave him an RASC membership for Christmas, and he was hooked. He's now learning the night sky, wanting to understand *The Observer's Handbook* better, and get out for a nice view of the night sky with his binoculars and other people to guide him.

Welcome Rod!
Meteor Showers: Minor Showers, Sporadic Meteors, and Other Orbital Oddities

By Bruce McCurdy

Overview

Like many sources, the Observer’s Handbook 2003 lists a dozen meteor showers in its annual table. Such lists are confined to the major showers, generally defined as having a maximum Zenith Hourly Rate of at least ten per hour. There are, however, many more minor showers, with several dozen to over a hundred recognized by various authorities. These showers generally exhibit the same general characteristics as major showers, but with much lower rates.

Indeed, it has proven difficult to delineate the boundary between recognized minor showers and truly sporadic meteors, in part depending on whom is doing the recognizing. According to Robert Lunsford, Secretary General of the American Meteor Society (AMS), “sporadic meteors are usually considered as random occurrences not associated with any particular meteor shower.” However, most meteors are generated from cometary debris, and depending on the age, density, and orbital characteristics of the debris trail, events of related particles are simply too rare to connect the dots.

However, a clear majority of the brightest fireballs and bolides are considered to be truly sporadic, one-of-a-kind events, including all known events which have resulted in a meteorite fall. Recovered meteorites have been determined to originate primarily from fractured asteroids, and some have been identified as chunks ejected (in the aftermath of collisions) by known sources such as larger asteroids, or even the Moon and Mars.

Other meteors, which the casual or intermediate observer might consider to be sporadic, are in fact associated with several known sources, which move in lockstep with Earth. Meteors from three of these sources can be observed on a nightly basis, namely the Antiheion radiant, and the Northern and Southern Apex. These radiants are enormous compared to those associated with showers, as large as 20 by 20°, but in well-defined directions.

Geometry

The Antiheion radiant is, as the name implies, at a point approximately opposite the Sun, where Earth intercepts low inclination particles (centred along the ecliptic) in direct orbit around the Sun. Earth’s motion causes the radiant to be offset slightly to an area about 195° east of the Sun (165° west), which therefore culminates about an hour after local midnight each night. The meteors are of intermediate speed.

The Apex meteors radiate from an area 90° west of the Sun, which like a third quarter moon can be seen only in the hours after midnight. These particles are in retrograde orbit which therefore collide with Earth at a much higher speed. It seems that most of the lower inclination material from this source has been swept clean, leaving a double radiant of higher inclination particles located some 15° north and south of the ecliptic.

Optical Characteristics

Sporadic meteors can be observed any night of the year, and will increase in number throughout the night by a factor of two or three. The serious meteor observer is encouraged to try to identify meteors with the Antiheion and Apex sources. It is also advisable to be aware of minor showers that may be active. While a count identifying, say, “Geminids” and “All Others” is not without value, it does not require much additional effort to identify these others as Monocerids, sigma Hydrids, and Leo Minorids, all of which also peak in mid-December. Fur-
ther identification of Antihelion and Northern and Southern Apex meteors should leave relatively few which are true sporadics, resulting in both more complete data and a more rewarding observing experience.

Radio characteristics

Most amateur techniques for detecting radio meteors are non-directional, which doesn’t permit positive identification of spikes with any particular shower. In general, sporadics provide a fairly consistent level of “background” activity which displays a diurnal rise and fall, peaking around 6 a.m. There also tends to be somewhat more sporadic activity in the autumn months. During a major shower rates will rise significantly, even dramatically against this background level, however the minor showers are much more difficult to differentiate.

For further information

More on the above topics is available at the following websites:

http://comets.amsmeeteors.org/meteors/calendar.html
http://www.amsmeeteors.org/imo-mirror/calendar/cal03.html#Table5

http://csep10.phys.utk.edu/astr161/lect/meteors/shower_list.html
http://www.spaceweather.com/meteoroutlook/sporadics.html

In particular, observers are encouraged to visit and bookmark Robert Lunsford’s weekly update on the AMS website which summarizes all current activity:

http://www.amsmeeteors.org/lunsford/

Bruce McCurdy is Education Development Coordinator of Sky Scan Science Awareness Project (www.skyscan.ca), an innovative program bringing radio astronomy to Grade 9 science classes in Alberta through remote sensing of meteors using FM radios. Sponsored in part by RASC Edmonton Centre as well as a grant from the NSERC PromoScience Fund, Sky Scan is conducting a pilot project in the Edmonton area in the 2002/03 school year, with simple radio telescopes currently installed in three local junior high schools. This is the fifth of a series of Stardust articles describing various meteor showers. Next month: the Lyrids and eta Aquarids.

Money Motion

George Moores Workshop

That we approach the General Membership for a maximum of $6000 for an October George Moores Workshop.

Telescope Rentals

The 8” Dob and the 90mm ETX scopes were rented out on a regular basis, as the demand was quite high. The 90mm refractor was rented out most of the time but as the demand was not as great it was kept for longer by those renting it. The Astroscan is has been out for some months so it adds to the amount of income but the demand is quite light. Due to the demand for the ETX and the 8” Dob, we are going to look at purchasing another one of each of them.

Remember the telescope rentals are for the benefit of our members so make the best use of this service.

Larry Wood
Annual Awards for Excellence in Astronomy

Presented at the January Annual General Meeting

George LaFluer
Recipient of the Astrophotographer of the Year.
Unavailable for Photo.

Dave Robinson and Roman Unyk

Don Brown
Recipient of the President's Award for Service to the Centre. Presented by Richard Vanderberg, Outgoing President.

Sherrilyn Jahrig
Recipient of the George Moores Award for Excellence in Public Education. Presented by Richard Vanderberg, Outgoing President.

Paul Campbell
Recipient of the Observer of the Year Award. Presented by Richard Vanderberg, Outgoing President.

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March Guest Speaker

The International Galactic Plane Survey: An Inside View of a Galaxy
March Monthly Meeting
A.R. Taylor
University of Calgary

The Dominion Radio Astrophysical Observatory has completed a 5-year observing project to image the radio emission from a 70-degree section of the northern Galactic Plane as part of the Canadian Galactic Plane Survey (CGPS). The DRAO observations provide simultaneous radio continuum images at two wavelengths, 74 cm and 21 cm, and spectral line images of the 21-cm line of neutral atomic hydrogen. This survey formed part of an international collaboration to create a database, within the CGPS region, of arcminute-scale resolution, high spatial dynamic range images of all major components of the interstellar medium - the gas and dust between the stars. The new data allow construction of a 3-dimensional picture of the Galaxy and reveal wide-spread features and process in the ISM that are invisible by other means, including, for example, unusual gaseous structures related to the vertical transfer of matter and radiation between the disk of the Galaxy and intergalactic space, polarisation signals that allow study of the magnetic field of the Galaxy, and a highly-structured, cold atomic phase of the neutral medium that may provide the missing link between diffuse primordial gas in the Galaxy and the formation of molecular clouds - the first step to star formation.

A global alliance has now been forged to secure a high-resolution 3-D image of the atomic hydrogen emission from the disk of the Milky Way Galaxy. This project, the International Galactic Plane Survey, combines an expanded CGPS for the northern Plane, with the Australia Telescope, Southern Galactic Plane Survey (SGPS) for the southern Galaxy and the VLA Galactic Plane Survey (VGPS) for the equatorial region. These surveys combined provide arcminute-scale atomic hydrogen images over 90% of the stellar disk of the Milky Way. Complementary surveys of carbon monoxide gas in the northern plane will be carried out using new focal plane array receivers on the Five Colleges Radio Astronomy Observatory and the Onsala Space Observatory in Sweden. I will review the scientific highlights of the project and show a movie of the gas in the outer part of the Milky Way.

For more information about these surveys, go to the web page at http://www.ras.ucalgary.ca/IGPS/

Bibliography:
BSc (1976) Western Ontario
MSc (1978) British Columbia
PhD (1982) British Columbia

Dr. Taylor came to the University of Calgary in 1987 as an NSERC University Research Fellow/Assistant Professor. He was promoted to Associate Professor in 1990, and then to Professor in 1996. Dr. Taylor is an active researcher and is currently the President of the Canadian Astronomical Society.

Dr. Taylor oversees the Radio Astronomy Laboratory at the University of Calgary, and is involved in a number of research projects studying the life cycle of stars and the evolution of galaxies.

Interests are:
The Interstellar Medium
Space Very Long Baseline Interferometry
Mercury's greatest western elongation ebbs over the beginning of the month and if you didn't see it at the end of January, you are unlikely to see it now. The morning apparitions of inner planets in the winter-spring months are bad since the morning ecliptic is almost parallel to the horizon. Evening apparitions in the fall mirror these phenomena, like Venus's disappearing act last September. Mercury will be lost in the morning twilight glare over the next month even though it starts off that period at an elongation greater than 22 degrees. You may get a chance to see it at the Deck on some Sunday afternoon.

In the eyepiece, Venus is now swelling into a gibbous phase. At the beginning of the month, Venus subtends 28" arc and shines at magnitude -4.3. By early March, it will shrink to 20" but remain undiminished in brightness. I have one great memory of Venus on a January morning, shortly after sunrise. It was Due south, at 9:30 am, a subtle spark in the morning sky. This will mark the farthest south and lowest point I have ever see it in the sky naked eye. On the morning of February 27 the moon passes 6 degrees below Venus. This marks a point where the moon is near its lower excursion from the ecliptic and Venus is 1 degree above the ecliptic. Interesting contrast in their orbital planes.

Mars is finally starting to expand in the eyepiece. It starts off this month at 5.3" and by the beginning of next month is at 6.2". This is the diameter that CCD imagers start taking notice, but it still is in the deep south of Scorpius and Sagittarius for us northern observers. It will take till May for it to rise to a decent height. Over the month it will shine at magnitude 0.9, just about 1 magnitude fainter than Saturn.

A gibbous moon joins Saturn on the night of February 11 and sits only 2 degrees away early in the evening. This would make a fine prime focus shot for a short focus scope, 1000 mm or less. The moon and Saturn would be framed perfectly in a 600 to 800 mm focal length instrument. In one month's time this event is repeated with the minimum spacing occurring 2 hours after moonset or 5 am on March 11. It still will be very close in the evening of March 10. Saturn shines at magnitude 0.0 and its disk subtends 19.1". The south pole is tipped 26.9 degrees toward us (it's max) and a halo of moons swarms around it. Mark March 4 to 6 for dates when Iapetus is 13 arc minutes below (south) Saturn. On those evenings, Iapetus shines at magnitude 11.0. This should make it fairly easy to find.

The month of January has seen me moving house, so the telescope has been under used this month and to the detriment of observing the mutual events of Jupiter's satellites. I have a while yet to observe them and hope to have everything online again by the time this comes to press. Bruce McCurdy has reported on seeing some of these events and a few others have commented on them. If you haven't managed to see some of them, do make an effort.
because the opportunity only comes around every 6 years. Remember, an occultation is where one moon passes in front of another and an eclipse is when one moon casts its shadow on another moon. Around opposition, the eclipse and occultation will be close together, but when the event occurs far from opposition, the eclipsed satellite may be far away from the eclipsing body. February 19 (20 UT) has a Callisto shadow event. Callisto’s orbital period is so long that we are lucky enough to have a well-placed event. This moon is very dark and we should be able to see it easily in transit all the way across Jupiter. The first time I saw a Callisto event, I mistook the moon for its shadow! The next day is a Ganymede event and if you miss it, you get another chance a week later.

Regular satellite phenomena
All times UT.

i.e. the shadow transit on Feb 8 at 4:12 happens on the night of Feb 7 at 9:12 p.m.

9 Mar 3:53 IV Sha end:
9 Mar 8:20 I Occ start:

Mutual events of Jupiter’s moons
All times in UT
ie the event on Feb 6 at 11:55 UT happens in the wee hours of the morning at 4:55 local time.
You will see Io come out of transit from Jupiter as Europa comes in to go behind Jupiter and is covered by Io just off the limb!

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Next Meeting:
Monday, March 10, 2003 7:30 p.m.
Odyssium

Guest Speaker: Dr. Russ Taylor, U. of Calgary
The International Galactic Plane Survey:
An Inside View of a Galaxy

Next Observing Sessions:
February 28, March 1, 2003
Blackfoot Staging Area

Next Council Meeting:
Monday, February 24, 2003 7:15 p.m.
Odyssium

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