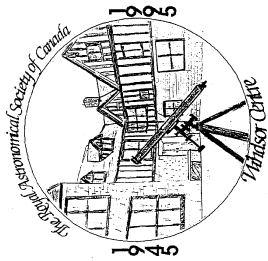




AURORA



September 2009

The Royal Astronomical Society of Canada - Windsor Centre

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The Sun in Hydrogen-Alpha Light by Steve Mastellotto



In June I purchased a Lunt Solar Systems 60mm Hydrogen-Alpha (Ha) telescope. Since I knew I would be doing solar imaging I also added a couple of upgrades which include a Feather Touch focuser to make the job of focusing the image easier and a B1200 filter which produces a bigger field of view for wider angle imaging of the solar disk. A Ha telescope uses a very narrow band-pass ($< .75$ Angstrom) filter system which can be tuned called an etalon to allow the Ha wavelength (6562.8 Å) of light through to the eyepiece or camera.

The photo of the sun above was captured on September 5, 2009 through the Lunt LS60THa using a DMK 21AU04 video camera. I captured two video sequences of 1,000 frames with the camera settings set best for the disk which are shorter exposures ($\sim 1/1,000$ sec) and then another sequence set for the prominences ($\sim 1/125$ sec.). I then used Registax 5 to create a single sharp stacked image of the disk and another of the prominences using the best ~ 300 frames of each video sequence. I used layers in Photoshop CS4 to align the two images. With each image on separate layers I move one until they were lined up. I then created a layer mask feathering the selection by a couple of pixels to allow the properly exposed disk to show through the overexposed disk on the prominence layer. The final step was to colourize the image using the colour balance tool.

To view a more detailed version of this image and some of my other astrophotos visit my website at <http://www.pbase.com/mastels/astrophotos>.

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Calendar of Events

Our next meeting...

Tuesday October 20, 2009

7:30 p.m.

at

Maidstone K of C Hall

10720 County Road 34 (Old Highway #3)

Main Speaker...

Dr. Patrick Weir

Topic...

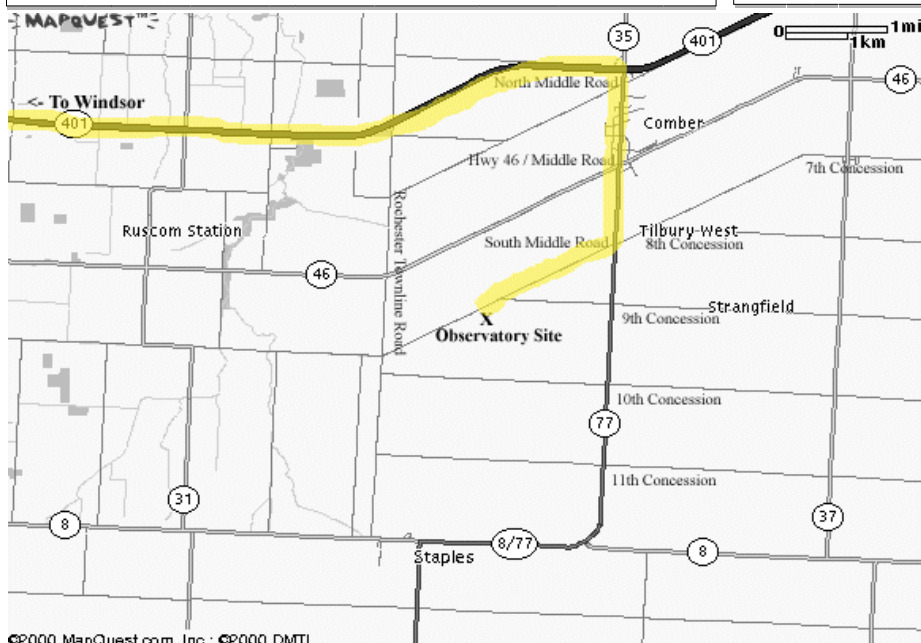
"Astronomy in Antiquity"

Activities...

Yard Sale: Al DesRosiers will host the Windsor Centre Yard Sale at his house at 149 Lesperance Road in Tecumseh. The Yard Sale will be held on **Saturday September 26** starting at 8:00 a.m. weather permitting. We are looking for your donations to the Yard Sale and Al can store whatever you have until the day of the Yard Sale. Please contact Al directly at (519) 735-9550 or alanclaire@hotmail.com to arrange to drop of your items.

Open House Nights at Hallam: The next open house night at Hallam is on Saturday September 26th at 8:00 p.m. For the remainder of the year they will be on October 24th, November 21st and December 19th at 7:30, 7:00 and 7:00 p.m. respectively.

Council Meeting: Tuesday October 13th at Steve Mastelotto's house. Meeting begins at 7:30 p.m..



Hallam Observatory Site

Directions: The map above shows the Comber area and it includes the major highways (401, 77, 8 and 46) that are in the area of the observatory.

The most direct route from Windsor is "highlighted" on the map which is to take Highway 401 East to Highway 77 South to South Middle Road. Turn right onto South Middle Road and go about 1 kilometer and just after the point where Concession 9 joins it (it is hard to see this intersection) you will find the observatory site on the South side (left) of the road.

If you hit the Rochester Townline Road (you come to a stop sign) you have gone too far.

Submissions

Aurora is published monthly except for July and December. The August, October, January, March and May issues are full newsletters (usually 6 pages) with a number of member submitted articles. The September, November, February, April and June issues are short flyers (2 pages) with one short article.

Submitted articles can be of any length from a paragraph to multiple pages. I can scan pictures and/or diagrams (both prints and film) to support your article and the originals will be returned to you.

Submission deadline is the 1st of the month.

Editor: Steve Mastelotto Email: mmastelotto@cogeco.ca
Ass't: Dan Anzovino Email: danzovino@sympatico.ca

Membership

The Windsor Centre of The Royal Astronomical Society of Canada meets on the 3rd Tuesday of every month (except July and August) at the K of C Maidstone Recreation Centre. In addition to regular meetings the centre hosts a number of observing nights, a picnic and a December social. Members receive a copy of the Observer's Handbook, a subscription to SkyNews magazine and access to the Centre's library and telescopes. And optionally the RASC Journal in print form—online version free.

Annual Membership Fees: Please see the RASC website at www.rasc.ca for current rates

Contact Ken Garber at (519) 966-3478 or visit our website at <http://www.rascwindsor.com> for more information.

June 2009 Meeting Minutes by Dave Panton

Minutes from the meeting of June 16, 2009 held at the Maidstone Recreation Centre and chaired by President Dr. Pierre Boulos.

Pierre opened the meeting by having the minutes from the May meeting read and checked for errors or omissions. Paul Pratt made the acceptance motion, Tina Chichkan seconded and the motion carried.

Pierre reminisced from the year 1969 when, as a new Canadian, he watched the historic drama of NASA's Apollo 11 mission and man's first landing on the Moon. A very keen young Randy Groundwater was also watching. Pierre introduced Randy as main speaker.

The Apollo 11 Moon Landing

Randy invited Tina and Rowan to hold up a huge world map and asked members and guests to recall where they were on July 20, 1969. There were people scattered from Canada's far North all the way to Romania.

Then he reviewed the history of rocket development in World War 2 as weapons and how at War's end German rocket science teams surrendered. Some went to Russia and others to the United States. American nuclear weapons, ever larger rockets and the belief Communist Russia was technically inferior ended in 1957 with the launch of Sputnik. the "Race for Space" was on.

Randy did a masterful review of the many unknowns and technical difficulties teams encountered. Many Canadians were among them due to the cancellation of the Avro Arrow project. There were wonderful successes and inevitable failures as ever larger rockets and spacecraft were launched. Progress was rapid and in a mere 12 years from the Sputnik shock, American Neil Armstrong stepped onto the surface of the Moon on July 20, 1969. The collection of period photographs, audio and video clips Randy saved during this exciting period in history brought vivid and exciting memories to those old enough to have "been there". For the younger folk in the audience, his presentation should be remembered for the many historic events of that tragically troubled and triumphant period in American history.

Pierre thanked Randy for his careful and well documented presentation.

Coffee Break and 50/50 draw: The winner of the 50/50 draw was Pierre and he donated his prize back to the club.

One **new member** was introduced by Pierre. Then he listed some of the **events planned over the Summer**. The Parks Canada Point Pelee event date is July 18th. Pelee Island Winery event date is August 29th. A second Point Pelee event is a good possibility. Members were asked to save sellable items for a big Garage Sale which Al DesRosiers will hold at his home in the Fall.

Steve Mastellotto has acquired a 60mm refractor fitted with a hydrogen-alpha filter to permit daytime astronomy, viewing solar prominences and the boiling motion of the Sun's surface. He also showed his annual June picnic photograph (see page 6) taken at the observatory. He noted our new land lord, Moe Trepanier attended the picnic.

Reports

Secretary, Dave Panton: All is in order.

Treasurer, Ken Garber: Ken reported our bank balance is \$4,890 and paid up membership is currently 96.

Librarian, Rick Marion: The surplus telescopes planned for sale were not displayed at the picnic due to weather concerns. One is worthy of preservation by someone keen enough to polish all the brass and make some repairs. It is believed to have been made in England sometime in the late 1800's and was donated to the club decades ago by a "Mr. Spracklen". The others are all usable "as is" or in one or two cases, if set on a mount.

Newsletter Editor, Steve Mastellotto: Steve offered apologies to Rod Clark for clipping his article to fit the newsletter. Photos, especially by members taken at the observatory are especially welcome.

Public Education, Randy Groundwater: A lot is happening Randy assured us but details were not immediately available.

Public Relations, Tina Chichkan: Tina had to leave at break period. The following dates are Hallam open houses. June 27th, July 25th and Aug 22nd - help may be short as this is Starfest weekend.

Light Pollution Abatement, Dan Taylor: For the latest news see Dan's "Blog" on the RASC - Windsor Centre web site. A lot of good things are happening especially in September.

IYA 2009 Coordinator, Mike Mastronardi: Mike reported all events count toward Windsor Centre's IYA total. He listed The July 18th public observing event on the West Beach of Point Pelee coincides with Parks Canada Day. On August 29th we have the Pelee Island Winery Event. Both of these events are Windsor Centre fundraisers. Canada South Science Center has requested help with a public observing event from their parking lot (lights switched off). Jessica Riley is the contact. More planispheres are on order. Also some guides for sidewalk astronomers are on order. Sarnia Centre with a mere ten members hosted a successful public observing event using Dobsonian telescopes set up at the Blue Water Bridge. Their effort is an inspiration. Wright State University in Ohio has an astronomy group interested in visiting Hallam to stage an International observing event for IYA 2009.

Observatory Director, Dave Panton: Dave reported the observatory is fully functional and encouraged more participation

(Continued on page 5)

Hallam Happenings by Dave Panton

Summer at Hallam saw many visitors and lots of warm evenings on the gorgeous deck listening to the sounds of night from crickets, frogs, Killdeer and those many mysterious sounds of nature at night. The grounds were kept mowed by Al DesRosiers and the larger area by our new land owner Moe Trepanier. At times the entire site looked almost like a manicured golf course.

Events included our annual June Picnic and open house events for visitors. One special event included Moe, his folks and friends vacationing from England. They will have pleasant memories of a nice evening on the deck and gorgeous sights in the C14 telescope.

All equipment is in good condition and operating as designed. Pointing in the C14 is still accurate indicating the last T-Point model is still valid and the telescope base has been stabilized. The six and eight inch Dobsonian telescopes are permanently located at the observatory and highly useful, especially when there are lots of visitors.

The interior of the warm room has been radically changed by retiring the two open sets of shelves and installing two oak finished storage cabinets, rearranging things and discarding odds and ends that will never be used (see photos below). More changes are proposed and if all comes to pass the warm room will

be very attractive, more spacious and much more user friendly.

Our surrounding environment is under a cloud of new light pollution. The new Comber Truck Stop Esso fueling area lighting fixtures have not yet been changed to the full cut-off type to match all the others on the site of the 401 interchange and to comply with the Town of Lakeshore's lighting standards. The change date of August 28th has passed so more follow-up is in order.

Similar glaring lights were installed in Tilbury only 12 km away and contribute significant new light pollution to the Northeast. Moe's machinery building tends to conceal the brightest glow low on the horizon.

The Brookfield Comber wind turbine project is on hold until a signed agreement with Ontario Hydro to purchase power from it is obtained. The number of turbines has been reduced about one third to 94 by virtue of using larger diameter rotors (101 meters) producing more power per unit. The tower height remains at 80 meters. Instead of five in the area of our observatory there will be only three within a kilometer. They are at least two years into the future and are not a concern. To see nearly identical turbines in operation visit the highly successful Port Alma wind turbine project.



June Meeting Minutes

(Continued from page 3)

to use the facility to full potential. He also asked if there were any members interested in assisting plant and water some light blocking trees made available by Moe Trepanier (Doug Robinson volunteered at meeting's end).

Membership Director, Paul Pratt: No report.

Coming Events

Pierre listed programs from September to year's end. Juliana Grigorescu will make a presentation in September titled "Astronomy of the Invisible". In October the program will be on astronomy, astrology and antiquities by Pierre. November will feature a play acted by Steve Pellarin, Pierre and Dr. Baylis playing the characters a Cardinal Bellarmine, Galileo and Kepler. December will feature our usual Holiday Social.

Director of Observing, Juliana Grigorescu: Juliana reviewed some of the many interesting astronomical events and stunning sights coming as the Winter constellations fade to the West and the Summer constellations become prominent. Several events involving motions of the Moon, planets and their relative movement with respect to themselves and their background stars were described. She encouraged taking photographs for future enjoyment. She projected a number of photos taken by members using Steve Mastellotto's piggyback mounted Astrotech AT111 refractor and the Celestron C14 in the dome. Others were shot from the grounds and even nearby in the case of her setting Sun and full Moon rising shots taken West and East of Comber only minutes apart last year.

Pierre thanked Juliana and concluded with good wishes to all for a great Summer. **Meeting adjourned 9:55 p.m.**

For Sale

Just recently received, this mirror is brand-new and still in its shipping box. It was crafted by Steve Swayze of Swayze Optical, one of the top mirror makers in the U.S. Swayze made this mirror in lieu of a refund on a deposit for a larger mirror project he was ultimately unable to do for me.

Made from 1 5/8" thick pyrex, and fine-figured using the Ross Null test method which Steve states typically produces for him optics better than 1/8th wave. Aluminized by Spectrum Coatings.

The engraving on its side reads "Swayze Optical 15" f/4.5, 67 5/8" F.L. #4246235 June / 09".

Priced at \$1900.00 which is well below the replacement cost. Contact Randy Groundwater at 519-969-8552 or rgroundwater@cogeco.ca.



Reminders

Hallam Observatory Fees: All key holders to Hallam Observatory must return their keys by October 1 or pay the \$40 access fee to keep using the observatory. Windsor Centre members can have exclusive access to the observatory by paying the annual access fee of \$40 (plus a one-time key deposit of \$10). Also, if you use the observatory site and find it of value we have a voluntary support fee of \$10 that helps offset the cost of maintaining the site.

Calendars: See the Treasurer for information about ordering the 2010 Royal Astronomical Society of Canada calendar.

Canadian Tire Money: Do you have any Canadian Tire money lying around? Why not donate it to the Centre? We have collected about \$100 and use the money for the trees planted on the grounds, oil and gas for cutting the grass, chain lube for the dome and bug spray. Bring it along to any meeting and drop it off at the Treasurer's table and it will be put to good use.

RASC - Windsor Centre Picnic 2009

On Saturday June 13th the RASC—Windsor Centre celebrated our annual picnic at Hallam Observatory. Thank you to everyone who came out and to all those that helped organize the event! *Photos by Steve Mastellotto.*

