Newsletter April - June 2008

Volume 4 Issue 2

Image © Paul Milligan

Chairman's Report

Over the last few weeks I have had the opportunity to show a number of groups visiting the observatory the magnificent sight of Saturn through our telescope. (yes! we have actually had a few clear skies at last) The "oohs and ahs" and various comments have been great and it really makes you appreciate just how easy it is to inspire people with the subject, hopefully a few of these casual observers will ultimately become IOMAS members. I just wish we could get a few more clear skies.

I always think that April and the spring months are a bit of a let down for astronomers, we have just had the wonderful sight of the winter constellations and whilst not wishing to decry Leo, Virgo and the like it is always a bit of a let down after the wonders of Orion, Taurus, Gemini & friends, but in 2008 we are blessed with Saturn in Leo all night long and Mars is still dominating Gemini. Jupiter is also rising earlier each day in the morning sky. Turning on a few months we will also have a partial (15%) eclipse of the Sun on August 1st at approx 10.00am, so lets hope that this time we get some clear skies. I am afraid that I cannot make it for this one, but I am hopeful of seeing the annular one in January 2010 and it's not too early to start planning to go and see what will probably be the worlds most watched eclipse in 2017 when the whole of the USA will see totality! How about an IOMAS trip to it?

Next year has been decreed international year of astronomy, and it is hoped that stargazers the world over will take this opportunity to show and explain to people the wonders of the night sky. I am hoping that we can play our part here in the Isle of Man and we are looking at various ideas as to how we can do this. Suggestions to date include a star party at the observatory on the evening of the 2009 summer solstice, a Saturn watch, lets see how many people we can get to see Saturn at a series of observing sessions throughout the Island, and we could also try for an all night meteor spotting session at the observatory for one of the principle meteor showers! What do members think, any other suggestions would be most welcome.

I am delighted to confirm officially that one of our members Nicole Stott has now officially been named to the crew of Expedition 19 to the ISS in April next year, and what's more she is also a back up for expedition 18 in October this year, so within the year we should have our first member in orbit. It will be a great moment for us all and we hope that Nicole can take our logo in orbit with her. If she does I think the chairman's prize for the best logo photograph is likely to have been won in 2009 already! Nicole's husband Chris very generously agreed to purchase a new hand held controller for us recently. Chris and Nicole live in Houston so it was very definitely a case of "Thanks for sorting out our problem Houston"

At our second ever workshop evening last month we had a great time showing various aspects of the subject to members and we are particularly indebted to Paul Milligan, and Alan Buck for their efforts along with all of the committee members. One thing I am always trying to do is attract new speakers at the monthly meetings and we have had a few recently, but I think perhaps the time has come to see if we can attract some overseas" speakers, it may cost us a little, but with approx 100 members we ought to see who we can get over, any suggestions of speakers would be most welcome.

In the meantime its time to dust off the telescope covers and start thinking about the summer month, it won't be long until winter is back with us, but in the meantime lets all enjoy some "stellar warming" (that's sunbathing to non-astronomers!)

Till next time

Howard L.G.Parkin
Chairman IOMAS

Telescopes at the observatory

We intend to draw up an inventory of the small telescopes that currently reside in the observatory store room and we have noticed that we may have some telescopes that we don't have ownership details or who donated them. Please can any members supply what information they know of the telescopes in our possession. Also, remember that some of these telescopes can be loaned to the membership. Please ask a committee member if you wish to borrow one of the smaller telescopes.

Cover Image Notes by Paul Milligan

"The hardest image that I have taken and my favourite image of late is my close-up of the Rosette Nebula with open cluster NGC 2244".

The details of the image are as follows :-

What is the object

The Rosette Nebula & NGC 2244 (open cluster)
Emission Nebula in constellation Monoceros

About the object
A large circular HII region forming stars and the Open Cluster NGC 2244.
Temperatures are estimated to reach 6 million degrees at the core.
It is located around 5,200 light years from Earth and it measures 130 light years across.
The nebula has a magnitude of 9.0 and is 80.0 arc minutes across.
RA $06^h\ 33^m\ 45.00^s$ **DEC** +04° 59′ 54.0″
Equipment details
Imaging Scope : Takahashi Epsilon 160 Astrograph
Imaging Camera : Canon EOS 350 DSLR (unmodified)
Imaging Focal Length = 530mm
Mount : EQ6 Pro
Guide Scope : William Optics Megrez 80FD
Guide Camera : GSTAR-EX CCD Integrating Video
Guiding Focal Length = 1100mm
Autoguided Using : Sony Vaio Laptop, Shoestring GPUSB, Metaguide Software
Imaging details
70 x 120 second exposures (2 hours and 20 minute exposure time) at ISO 1600
18 x 120 second exposures binned
Imaged in dark skies (no moon) from Baldrine, Isle of Man at 22:20 on 04/03/2008

Solar Report from 2007 by Alan Buck

Compilation of the Sun's Activities in 2007

In 2007 there were 46 Active Regions, commencing with 10933 on the 1st January and finishing on the

18th December with Active Region 10979. As can be seen below, the southern hemisphere was by far the more active.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
North	17	0	7	3	10	0	4	3	3	1	5	3
South	44	38	17	11	24	35	26	21	7	2	1	20

Total number of Sunspot Groups for 2007 = 302.

There were 33 out of a total of 60 possible sunspot group permutations over the course of 2007. Of the 33 groups only 8 reached double figures. They were;

Bxo 47 Hsx 47 Axx 34 Dso 22 Cso 21 Hax 18 Cao 15 Dao 15

The remaining 25 groups were;

Bxi, Hrx, Cro, Cri, Dro, Eao, Dai, Eai, Eso, Dsi, Esi, Dac, Eac, Hkx, Cko, Cki, Hhx,

Cho, Dko, Dki, Dhi, Ehi, Dkc, Ekc, Fkc.

Being the last year of cycle 23, flare activity was hardly going to be something to remember. Below is a breakdown of flare numbers. There was a nil return for Class X flares and the only occasion we
where treated to M class was from AR10960 in June.

Flare	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
X	0	0	0	0	0	0	0	0	0	0	0	0
M	0	0	0	0	0	9	0	0	0	0	0	0
C	12	3	0	2	6	17	19	3	0	0	0	10
B	113	8	5	36	87	101	76	7	4	0	1	103

Totals for 2007 were; X class = 0, M class = 9, C class = 72, B class = 541.The 10.7cm Flux (background radio noise) as recorded in Penticton, Canada remained steady throughout 2007. Recorded in Solar Flux Units, readings were contained between 65 and 94.

Geomagnetic storms were at a minimum. On the Kp scale of 1 to 9, the following were recorded;

Kp5 = Minor Storm = 31, Kp6 = Moderate Storm = 6, Kp7 = Strong Storm = 1

Alan Buck. 27th January 2008

Meetings

Listed below are the planned meetings at the observatory. The meetings in *italics* are for groups outside of the IoMAS, but any member is allowed to attend these meetings where you may help with the visit, or just use the telescopes. Note these meetings may change at short notice. Contact the host of the meeting to confirm. Also, see the IoMAS website as this has a page that is continuously updated.

3rd April Monthly Meeting. "Short Papers" Up to four speakers
17th April Committee Meeting
1st May Monthly Meeting. "Kuiper Belt Objects" by Johnathan Gordon
15th May Committee Meeting
12th June Monthly Meeting "Solar Observing" by Alan Buck

The Manx Night Sky. April - June 2008

All times are Universal Time (UT). IoM time is BST so don't forget to subtract 1 hour from the times quoted.

Moon

New	**1st Qtr.**	**Full**	**3rd Qtr**.
6th Apr. 03.55hrs	12th Apr. 18.32hrs	20th Apr. 10.25hrs	28th Apr. 14.12hrs
5th May 12.18hrs	12th May 03.47hrs	20th May 02.11hrs	28th May 02.57hrs
3rd Jun. 19.23hrs	10th Jun. 15.04hrs	18th Jun. 17.30hrs	26th Jun. 12.10hrs

Lunar Occultation's: (Stars brighter than magnitude +6.0)

Date	Time (h.m:s)	Star	SAO#	Magnitude	PA	Type of Event	Notes
12 Apr	00.34:22	ZC1055	78866	5.8	130	DD	37 Gemini
23 Apr	01.55:20	ZC2276	183931	5.6	298	RD	4 Scorpius
10 May	**MARS OCCULTATION DURING DAYTIME**.						
	1st Contact 12.23:07	2nd Contact 12.23:31			040	DD	
	1st Contact 12.53:08	2nd Contact 12.53:30			344	RD	

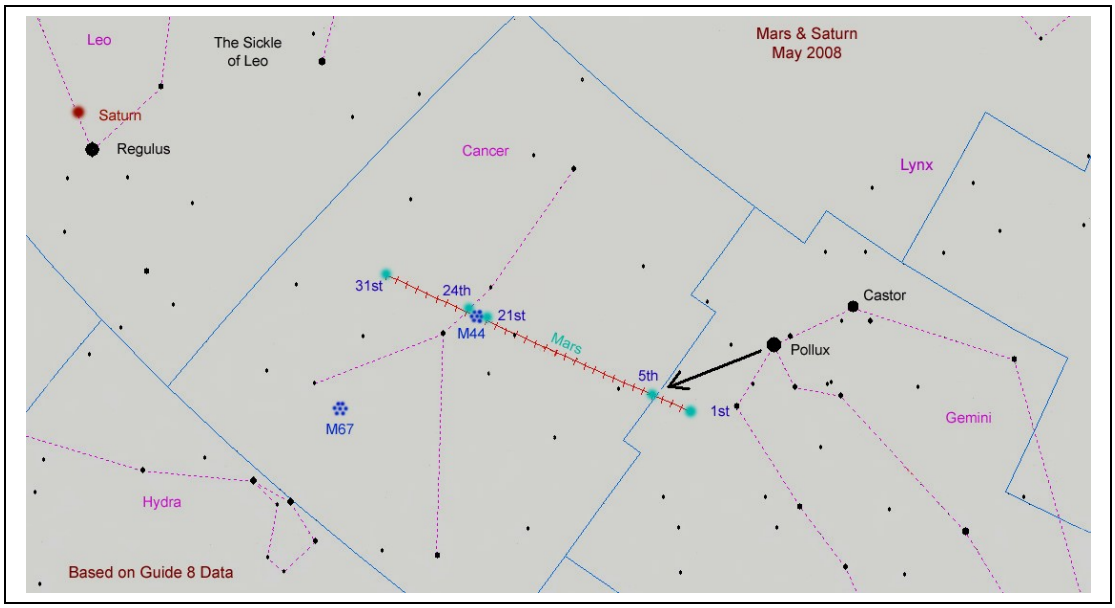
Mars is 91% illuminated with a small disc size of 5.5 arc seconds. The planet will be at magnitude +1.3
The Moon will be 33% illuminated and 27.3 degrees high in the sky at the start of the occultation.

13 May	22.44:44	ZC1599	118610	4.8	075	DD	58 Leo

Times are UT as seen from IoMAS Observatory. Start to observe these events about 5 minutes before the above times to allow for differences in your latitude and longitude. This will give you time to locate the star that is about to be occulted.
ZC = Zodiacal Catalogue. Type of Event DD = disappearance at dark limb, RD = Reappearance at dark limb.
PA = Position Angle around limb of the Moon, where 0 degrees is north, 90 degrees is east, 180 degrees is south and 270 degrees is west.

Planetary Highlights

Mercury. Reaches superior conjunction (far side of the sun) on 16th April. It will move into the evening sky during May and this will be the best period to view Mercury in the evening sky from Manx shores. Soon after sunset, use a pair of binoculars and scan just north of eastern sky, low down towards the horizon. Once found in binoculars, you should eventually spot the planet quite easily with the naked eye, shining between -0.5 to +1.0
Venus is poorly placed on the far side of the sun and will not be visible until the summer months. It reaches superior conjunction on 9th June.
Mars. Is found in Gemini during April and moves into Cancer in May and Leo in June. The planet is now far away and is easily identified with its warm red glow. Due to its distance, no details upon its surface will be seen as the disc of the planet will be too small. On the 5th May, Mars will pass into Cancer from Gemini and on this date, the planet will be in line with the two bright stars of Gemini, Castor and Pollux. As Mars moves across Cancer, do look out for the planet crossing the open star cluster M44 The Beehive. It will look great through a pair of binoculars on the nights 21st through 24th May.
Jupiter starts in April as a morning star, low down in the south. Not until May/ June does it become a more convenient object to see as it moves towards an evening sky. The planet remains in the constellation of Sagittarius, shinning at a bright -2.1 to -2.7 magnitude and will be unmistakable as a beacon low down in the sky.



Saturn. Resides in Leo during the next three months and shines at +0.3 to +0.8. The Leo constellation being changed noticeably by the proximity of Saturn with Regulus, the brightest star in Leo. Through a telescope, the rings will present the southern face towards the earth, with an angle of -9 degrees.

Meteors:

Virginids are slow moving meteors that can be seen during March and April with two radiants in the sky. One of the radiants is active from 7th to 18th April. There is a maximum peak of 5 meteors per hour on the 10th April.

Lyrids are visible during the period 19th - 25th with a maximum due on 22nd at 04hrs. In ideal conditions, 10 meteors per hour are expected but there will be a gibbous moon in the sky at this time and the meteor shower will be unfavourable for good observed rates.

Eta-Aquarids are active during the last week of April with a maximum peak on May 4th, when 40 meteors per hours can be seen in ideal conditions.

Alpha-Scorpiids is a weak shower that is active between 20th April through 19th May. There are two maximum dates on 27th April and 12th May when 5 meteors per hour can be seen in ideal conditions.

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Please ring the Dome Phone on any clear night. There should be a committee member there if you're lucky. If you don't get an answer, please try any of the above committee members that have **(KEY)** next to their name to see if they plan to do some observing. They should be able to try to get the observatory open for you. If you know in advance what you plan to observe, again, ring the above committee members to arrange an observing session.

This newsletter has been very kindly sponsored by "The Office Equipment Centre" Douglas. Isle of Man.