



Recent News..

WISE satellite due to launch in early december:

WISE is a NASA-funded Explorer mission that will provide a vast storehouse of knowledge about the solar system, the Milky Way, and the Universe. Among the objects WISE will study are asteroids, the coolest and dimmest stars, and the most luminous galaxies.

WISE is an unmanned satellite carrying an infrared-sensitive telescope that will image the entire sky. Since objects around room temperature emit infrared radiation, the WISE telescope and detectors are kept very cold (below 15 Kelvins, which is only 15° Centigrade above absolute zero) by a cryostat -- like an ice chest but filled with solid hydrogen instead of ice.



As WISE sweeps along the circle a small mirror scans in the opposite direction, capturing an image of the sky onto an infrared sensitive digital camera which will take a picture every 11 seconds. Each picture will cover an area of the sky 3 times larger than the full Moon. After 6 months WISE will have taken nearly 1,500,000 pictures covering the entire sky. Each picture will have one megapixel at each of four different wavelengths that range from 5 to 35 times longer than the longest waves the human eye can see. Data taken by WISE will be downloaded by radio transmission 4 times per day to computers on the ground which will combine the many images taken by WISE into an atlas covering the entire celestial sphere and a list of all the detected objects. Farther away, WISE will find the most luminous galaxies in the Universe, called Ultra-Luminous Infrared Galaxies (ULIRGs), which result from the merger of galaxies triggering intense bursts of star formation, most of which is enshrouded by clouds of dust. WISE will also probe and characterize the population of [active galactic nuclei \(AGN\)](#) that are obscured heavily by dust and that have not yet been discovered by studies in the visible or ultraviolet parts of the electromagnetic spectrum.

(c) NASA

This Month's Talk:

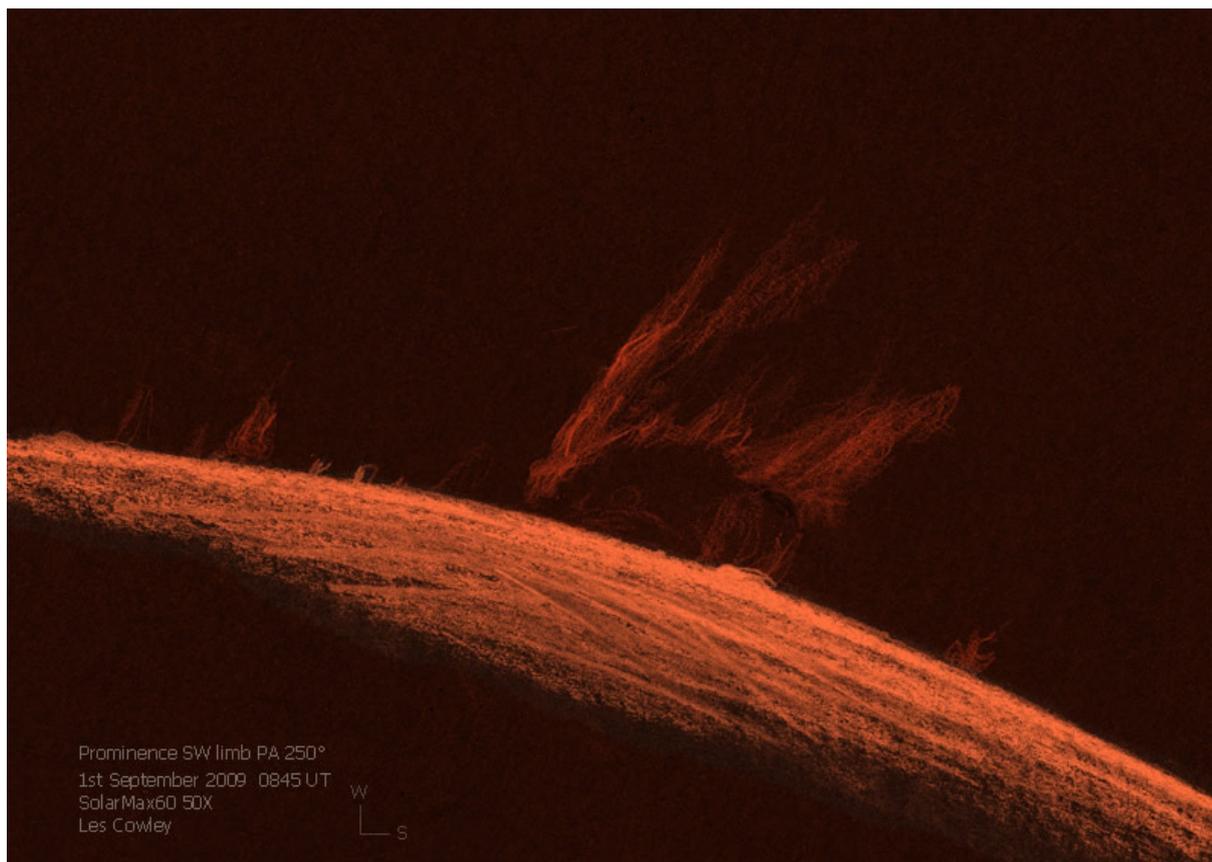
December 19th (NOTE 3rd Saturday)

SOLAR IMAGING

Nick Howes (Wessex AS)

Three sides to the sun – Practical aspects of imaging our nearest Star.

Followed by the *RAS "Christmas Special"*



Note the following change to speaker dates:

February 20th

THE SUN KINGS

Stuart Clark (University of Hertfordshire) "The Unexpected Tragedy of Richard Carrington, and the Tale of How Modern Astronomy Began".

April 17th

POINTING A TELESCOPE

Pat Wallace (Rutherford Appleton Laboratory)

What a telescope control computer is doing when it points the telescope accurately at an astronomical target

Last Month's Talk:

As always **Bob Dryden** (Abingdon AS) gave an entertaining and informative talk about astronomy in New Zealand. You may wish to submit your own captions for the images below???



From the Forum

<http://tech.groups.yahoo.com/group/readingastro/>

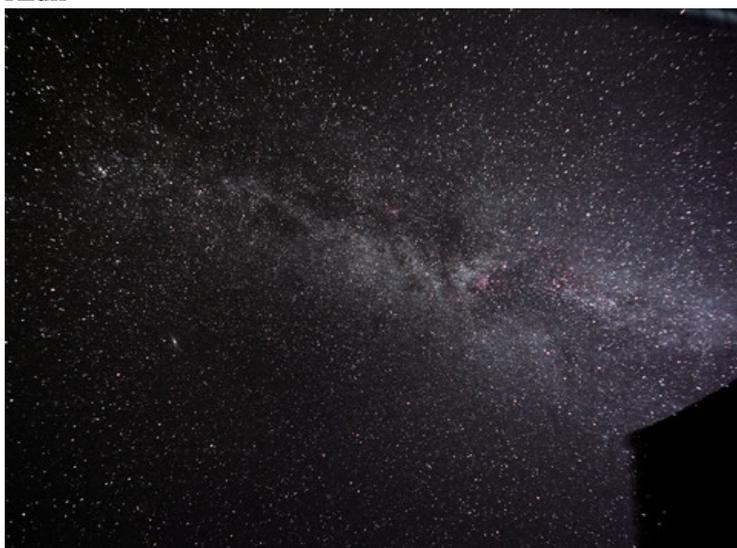


MI The Crab Nebula by Alun....



Last night (10th Dec Ed.) being clear I decided to have a go at narrow band imaging, using H α , SII and OIII. Chose M1 as my target and using my Atik 314L ccd camera electric filter wheel and 120mm f/5 refractor (achro), I collected an hours worth of H α at 5min per sub. Another hour spent collecting SII data, each sub being 7mins each, only got 50mins of OIII due to high cloud moving in: o(Mount was autoguided by a tasco 60mm refractor and DSI Pro and PHD. All stacking carried out using DeepSkyStacker and processing/colour combining done in Maxim and Photoshop. Resulting image can be found in my folder.

Alun

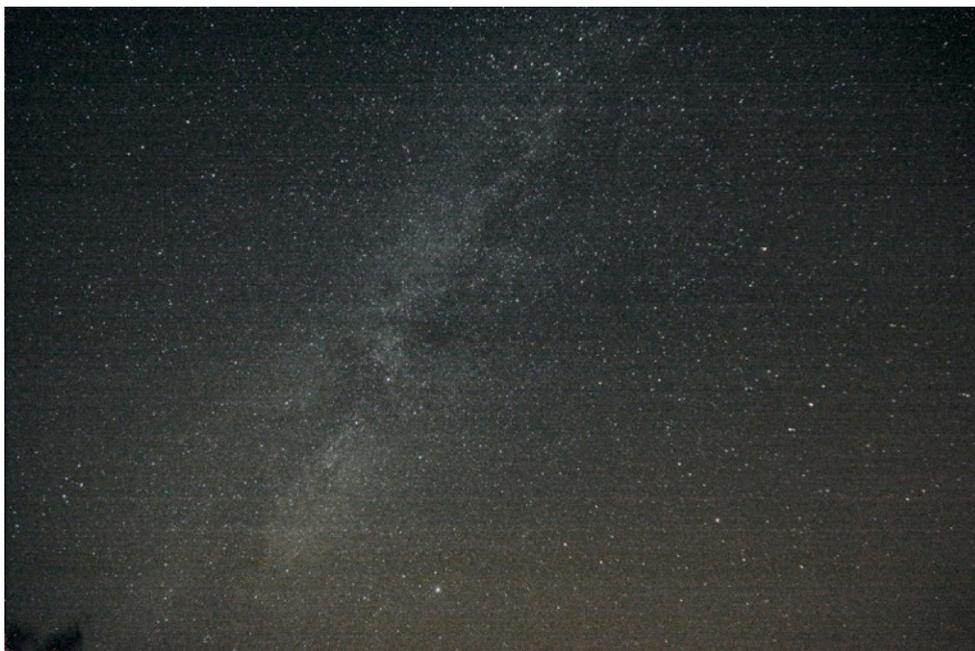


Nice Milky way image by Peter, taken from Lower Early!

RAS Starcamp!

Eleven members and friends braved the heaviest rain (and floods) of the season to find a dark sky at our usual outpost in Wales.

Saturday evening gave us some success as this stack of 5x30secs images taken by Canon400D through Sigma wide-angle lens shows.



The wine was't bad either!.....



Astronomy Basics

This is a friendly informal meeting hosted and presented by Gerry Bond. Its a great way for beginners and more experienced astronomers to learn some of the history and fundamentals of astronomy!

All meetings start at 7.00pm in the [Loddon room](#) of Dinton Pastures during 2009/10. (Info on Dinton Pastures see: <http://www.wokingham.gov.uk/leisure/parks/country-parks/dinton/>)

Below is a photo from last months meeting! Its always good to see RAS members willing to turn up in all weathers to pass on their knowledge and enthusiasm to new members. Some even go to the trouble of dressing to match the telescope!!



Just a note to let you all know the situation this month. The Dinton Pastures event is never well attended at this time of year but all on this message group are invited to the main meeting at St Peters church hall, 7.00pm on the 19th. We have advertised in the WDC pamphlets so I will be at the park in case of clear sky but expect to be able to leave early and join the festivities.

Details of the talk are posted at the website and instead of members contributions in the second half we have a Christmassy evening. If you have not been before email me before going so I can know to say hello as I don't know all your faces.

You may know that the prospects for Geminid meteors are good this year and the best time is after midnight on Sunday evening. I am off somewhere where the sky will be clear(er) but if it is clear here, and getting up Monday morning is not a problem, then doing a meteor watch will be worthwhile.

Check here first....

<http://britastro.org/baa/content/view/428/118/>

THIS MONTH.....

Geminids

Associated with asteroid 3200 Phaethon, rather than a comet, and their meteoroids seem to be rather denser than those in most meteor showers too.

Good rates can be seen for around two nights over their peak, but drop away very quickly after the maximum. Unlike many meteor showers, they are easily-observed throughout the night.

Regular British observers often consider them the best, reliable, annual shower of the year visible here at present, though the winter weather can be problematic.

Medium-speed, often bright, meteors. Their peak is due on December 14, within 2h20m of 05h UT, good for UK watchers, and perfect with new Moon on December 16.



A meteor is a bright streak of light that appears briefly in the sky. Observers often call meteors shooting stars or falling stars because they look like stars falling from the sky. People sometimes call the brightest meteors fireballs. A meteor appears when a particle or chunk of metallic or stony matter called a meteoroid enters the earth's atmosphere from outer space. Air friction heats the meteoroid so that it glows and creates a shining trail of gases and melted meteoroid particles. The gases include vaporized meteoroid material and atmospheric gases that heat up when the meteoroid passes through the atmosphere. Most meteors glow for about a second. Most meteoroids disintegrate before reaching the earth. But some leave a trail that lasts several minutes. Meteoroids that reach the earth are called meteorites. Millions of meteors occur in the earth's atmosphere every day. Most meteoroids that cause meteors are about the size of a pebble. They become visible between about 40 and 75 miles (65 and 120 kilometers) above the earth. They disintegrate at altitudes of 30 to 60 miles (50 to 95 kilometers). Meteoroids travel around the sun in a variety of orbits and at various velocities. The fastest ones move at about 26 miles per second (42 kilometers per second).

READING ASTRONOMICAL SOCIETY

President Dr Allan Chapman (Fellow of Wadham College, Oxford)

Chairperson John Talbot (01235) 848162 john.talbot@readingastro.org.uk

Vice-chairperson Anne Chadwick (0118) 9697539 anne.chadwick@readingastro.org.uk

Secretary

Chris Menmuir 68 Woodrow Drive Wokingham RG40 1RT

Committee first_name.last_name@readingastro.org.uk John Talbot, Anne Chadwick, Jillian Ullersperger, Chris Menmuir, Nick Cryer, Gerry Bond, Kenelm England, Malcolm Brown, Peter Tickner, Patrick Josephs-Franks

Main Meetings (Programme is given on next page)

2009 - 2010 Session

These are held on the third Saturday of each month between September and June. The venue is St Peter's Church Hall, Church Road, Earley, just off the A329 Wokingham Road. Parking is available in the hall car park and the adjacent school playground. Meetings start at 7pm with a few short announcements, followed by the main speaker and breaking for refreshments around 8:30. The second half runs from 9pm to approx 9:45pm and consists of members' contributions.

Society Website Webmaster – John Talbot john.talbot@readingastro.org.uk

Discussion Groups

<http://www.readingastro.org.uk>

<http://tech.groups.yahoo.com/group/readingastro/>

RAST AR

The Society's magazine. Please send in articles for publication to the editor at rastar@readingastro.org.uk

Library – Kenelm England Books, DVDs, videos and telescopes are available for loan to members at meetings.

Basic Astronomy Section

Meeting at Dinton Pastures Country Park on the fourth Saturday of each month between September and June (December is the third Saturday), from 7.00pm until 9.00pm. All ages are welcome. Talks are aimed at a level that non-astronomers will understand. Please contact us before attending any meeting for the first time as the programme dates are subject to change:

Organiser: Gerry Bond gerry.bond@readingastro.org.uk

Public Observing Weekends - Dinton Pastures Country Park

Public observing sessions will be held at Dinton Pastures Country Park from 7pm onwards on 23rd/24th October 2009 and 12th/13th March 2010. Details from Gerry Bond gerry.bond@readingastro.org.uk

Society Observing Sessions

Society observing sessions will be held on selected dates, which are announced at meetings and via the discussion groups. Contact the observing co-ordinator, Alun Halsey, for more details.

Advice on Observing and Telescopes

Alun Halsey

Honorary members

G.W.Amery, A Elliott, D.M.Ratcliffe, A.Thomas, J.Trott, J.Wrigley, M.Wrigley

Registered Charity no 1076390. Trustees: A.Chadwick, V.Coney, C.Menmuir, J.Talbot

2009/10 Meeting Calendar

September 19th**SOPHISTICATED SMALL SATELLITES FROM SURREY**

Dr Stuart Eves (Surrey Satellite Technology Ltd)

A light-hearted look at current and future missions using small satellites, activities at SSSL and space sciences.

October 17th**END IN FIRE – THE ULTIMATE FATE OF THE EARTH**

Dr Robert Smith (Sussex University)
Millions of years into the future, what will happen to the Solar System and our Earth?

October 23rd/24th**PUBLIC OBSERVING WEEKEND AT DINTON PASTURES****November 21st****ASTRONOMY FROM NEW ZEALAND – OR WHAT I DID ON MY HOLIDAYS**

Bob Dryden (Abingdon AS)
Bob recounts his experiences of observing in New Zealand

December 19th (NOTE 3rd Saturday)**SOLAR IMAGING**

Nick Howes (Wessex AS)
Three sides to the sun – Practical aspects of imaging our nearest Star.
Followed by the RAS “Christmas Special”

January 16th**THE LUNAR ‘100’**

Dr Lilian Hobbs(Southampton AS)
Discover how to observe Charles Wood’s 100 lunar objects using a small telescope. Lilian is author of the ETX & LX90-AF guides.

February 20th**THE SUN KINGS**

Stuart Clark (University of Hertfordshire)
“The Unexpected Tragedy of Richard Carrington, and the Tale of How Modern Astronomy Began”.

March 12th/13th**PUBLIC OBSERVING WEEKEND AT DINTON PASTURES****March 20th****CATAclysmic VARIABLES**

Darren Baskill (University of Sussex)
Understanding how, every few months, some stars dramatically increase in brightness within just a few hours.

April 17th**POINTING A TELESCOPE**

Pat Wallace (Rutherford Appleton Laboratory)

What a telescope control computer is doing when it points the telescope accurately at an astronomical target

May 15th**IMAGING THE MOON**

Bruce Kingsley (BAA Lunar Photographic Section)

An overview of imaging techniques, including many images and video, encouraging observation of our Moon.

June 19th

Kenelm England (reading AS) Continuing the theme celebrating important and interesting astronomical centenaries.

Followed by 39th Annual General Meeting