



# AYLESBURY ASTRONOMICAL SOCIETY

## What's Up?! MARCH 2010

### Aylesbury Astronomical Society Newsletter Issue No. 503

#### **NOTICE – Your committee still needs you!**

Our next Annual General Meeting (AGM) takes place on Monday, 3rd May 2010 where all committee positions will be up for re-election. Our chairman, Peter Gillespy, has given early notice that he plans to stand down at the AGM, after a number of years service to the AAS for which we are grateful. If you would like to lead our society into the future, please consider standing for this key position.

In addition, the society also requires someone to take on the role of website editor. Please consider standing for this role to help keep communication going for existing and potential new members.

You will have noticed that recent editions of the newsletter have been somewhat minimal; we now have a new editor who seeks your input to make this newsletter *your* newsletter. Anything you have seen, learnt or would like to see etc can go in the newsletter.

**PLEASE SEND YOUR CONTRIBUTIONS TO THE EDITOR BY THE NEXT COPY DATE: 22nd MARCH 2010**

#### **NEXT MEETING: Monday 12th April 2010 at 7:30 pm**

Scout Hut, 50 Oakfield Road, Aylesbury HP20 1LL: Visiting Speaker (to be announced).

#### **OBSERVING: Star Parties on Friday 5th March and Friday 19th March at 8:00 pm**

The observatory will be open on these evenings, providing the sky is reasonably clear – please check with a committee member if unsure. The Colin Hunt Observatory is located at Upper Winchendon (OS grid reference: SP 737132 or see web site). Take the A41 from Aylesbury and turn left at the crossroads one mile before Waddesdon. Follow the road up the hill and through the small village of Upper Winchendon. The road then goes into a deep dip, rises again and then goes into a second dip. The track to the observatory is on the left-hand side in the second dip. Please remember to bring a torch, wear warm clothing and stout shoes or boots.

The observatory can be open on other evenings by arrangement with the committee.

#### **ANNUAL TRIP: Herschel Museum in Bath (early September)**

The society annual trip will be to the Herschel Museum in Bath. The Herschel Museum of Astronomy is dedicated to the many achievements of the

Herschels, who were distinguished astronomers as well as talented musicians. It was from this house, using a telescope of his own design that William discovered Uranus in 1781. A special exhibition at the Herschel Museum of Astronomy this year celebrates the amazing work of William Herschel and his sister Caroline during their years living in Bath making extraordinary telescopes and setting new standards in observation. In addition to the general access to the museum, there will be presentation by one of the museum's experts specifically for our Society (details to be confirmed).

The annual trip will take place in early September, on a Saturday, to be confirmed at a later date. If you are interested and would like more information, please contact a member of the committee. For more information specific to the Herschel Museum, see <http://www.bath-preservation-trust.org.uk/?id=8>

## WHAT ARE YOU LOOKING AT?

**Moon:** 7th last quarter; 15th, new moon; 23rd, first quarter; 30th full moon.

The moon will be close to: Saturn, 2nd and 29th; Neptune, 13th, Venus, 17th; and Mars 25th.

**Mercury:** Always difficult to see, will be visible in the western evening sky just after sunset towards the end of the month when Venus is in the same vicinity.

**Venus:** Really bright (magnitude -3.9) in the western evening sky just after sunset. Passes close to Neptune on the 4th.

**Mars:** is now receding rapidly. Visible among the constellation of Cancer (magnitude +0.1).

**Jupiter:** is too close to the sun to be seen.

**Saturn:** now at its best as it reaches opposition on the 22nd. The rings are now tilted slightly towards us making it very much worth viewing even with a modest telescope.

**Uranus:** not visible this month.

**Neptune:** visible in the south-western sky just after sunset. Venus is close on the 4th. Moon passes by on the 13th.

**Vesta** is a group of some of the largest asteroids which can be seen with binoculars or a small telescope in the constellation of Leo. 4-Vesta is about 530 km across, magnitude about +6.

**Stars:** Orion and other prominent winter stars now getting lower in the western sky. The Gemini twins, Castor and Pollux still high in the sky. The Little Dog, Canis Minor is just underneath Gemini and to the east of Orion. To help not confuse these two, the two stars in Canis Minor have different magnitudes whereas Castor and Pollux have the same magnitude and are also part of the Gemini constellation.

## SAM'S SPACE

Dad, what's all this "magnitude" malarkey?

Well, I'm very glad you asked me Sam this because I've forgotten too.

The original scale is thought to have been invented by an Ancient Greek named Hipparchus who was quite a guy but more on him in a later issue. +6 was said to be the faintest object that can be seen with the naked eye and +1 was the brightest star.

Sam: Is Hipparchus older than you Dad?

Dad: Just a tad. Now today's magnitude scale was updated in 1856 by Norman Robert Pogson who defined a 1st magnitude star to be 100 times brighter than a 6th magnitude star. This makes a 1st magnitude star to be 2.512 times brighter than a 2nd magnitude star and so on. This is a log or non-linear scale and includes the Sun (-26.73) the Moon (-12.6) and Sirius, the brightest star at -1.4.

Sam: You've lost me Dad.

Dad: I wish. Yes it does get a bit more complicated when you also consider there's an absolute magnitude scale and an apparent magnitude scale. The apparent scale is important for observers, +6 is very faint, +1 or negative numbers are very bright. The absolute scale is useful for astronomers to estimate distances but usually the subject of debate since assumptions have to be made about the type of star and any interstellar gas which may absorb some of the light on its path to Earth.

Sam: What did the Ancient Greeks cook their chips in? Dad: Dunno.

Sam: Ancient grease! Dad: You can't be Sirius.

Dad: Here are some other terms you may have forgotten:

**Conjunction:** In line with the Earth and the Sun.

**Superior conjunction:** In line on the other side of the Sun.

**Inferior conjunction:** In line between the Earth and the Sun.

**Opposition:** On a line from the Sun through and beyond the Earth.

Clear? Yes thanks, Dad. Can I have my pocket money now?

## **ASTRONOMY A to Z: A is for Aristarchus of Somas**

Aristarchus (310 – 230 BC) was possibly the first person to put the Sun at the centre of our solar system with the then known planets in their correct order. This heliocentric model was rejected in favour of the geocentric (Earth centred) models of Aristotle and Ptolemy not rediscovered until some 1800 years later by Copernicus and Kepler.

Aristarchus estimated the distance to the Sun by using basic right-angled triangles at moon quarters. He deduced that the Sun was 18-20 times further away than the Moon but his result was limited by lack of precision in the instrumentation available. Noticing that the Sun and the Moon were apparently the same size in the sky, he concluded that the Sun must be 18-20 times larger. Aristarchus' numbers were wrong (the difference being 400 times) but his principles were correct and there is a crater on the moon named in his honour.



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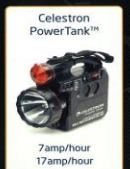
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