

The speaker for the July meeting was an old friend of the society, namely Tim Wetherell who spoke on the subject of The age of the Great Refractors.

Tim started with the history of early refractors and compared early refractors and reflectors. Up to the middle of the 17th century refractors were very poor and unwieldy telescopes of great length to avoid chromatic aberration but, following the invention of the achromatic lens by Chester Hall (followed by Dolland who heard about the idea and patented it) the prime disadvantage of refractors over reflectors was solved. Reflectors of the time were made of speculum metal which was both heavy and tarnished in a few weeks. The failure of the Great Melbourne Reflector also ushered in the age of great refractors during the 19th century.

Tim showed a number of telescopes of increasing size from those produced by Fraunhofer in the 1820's to the various telescopes produced by Clark and Sons in the USA including the Lick 36" and the Yerkes 40". The largest refractor ever built was the 50" made for the Paris exhibition of 1900 though this was a completely static telescope fed by a large siderostat (so Tim questioned whether it was really a refractor at all!).

Following the invention of aluminium on glass mirrors, it became much easier to produce large reflecting telescopes and the Age of the Great Refractors passed with the dawn of the 20th century.

Following the break we had Terry's usual Upcoming Events (below) followed by some images of Noctilucent Clouds, Saturn & Neptune and the inevitable NGC6729 sequence. Bud has processed the 1Tbyte or so of Lunar data acquired some months ago and showed some of the results. The detail in some areas was outstanding with the small rille in Vallis Alpes clearly visible.

Next month's speaker will be Joe Williams from Exeter University who will be talking about Exoplanet research at the University.

Upcoming Events

Planets

Mercury is now too close to the sun for observation.

Venus is now reasonably high as it gets light in the morning but you do need a reasonable Eastern horizon. It's currently in Taurus but will move into Gemini by the next meeting. Jupiter joins it in the morning sky for a close conjunction on 12th August.

Mars is setting before it gets properly dark and is only at magnitude 1.5. That's the last we'll see of Mars until this time next year!

Jupiter could be visible at the start of civil twilight (04:30BST) but is still low. It will come out of the twilight over the month and join Venus for the conjunction on 12th August. The two planets will pass each other over the preceding & succeeding days and it should be interesting to observe from morning to morning (if you have the clear NE horizon, that is!). On the morning of 20th August, a thin crescent moon will be between Venus & Jupiter. They, and Castor & Pollux, will fit into a 55mm camera field of view and be visible in a fully dark sky at around 04:00BST. (Orion will be just rising as well!)

Saturn is now rising just before midnight BST and will be in the SSE at 30 degrees altitude by the time it starts to get light at the start of nautical twilight (03:30BST). By the next meeting it will rise by 22:00BST and be on the meridian by start of nautical twilight (04:30BST)

Uranus is about 15 degrees altitude by start of nautical twilight and could be visible in binoculars. It will improve during the month and be 40 degrees up in a fully dark sky at 04:00BST on the morning of 20th August. It's not far from the Pleiades.

Neptune and Saturn are still close to each other. They have just passed their stationary points and are moving westwards in the sky. They should be visible in a small telescope with a nice wide (32mm or 40mm) eyepiece. Neptune is a bit faint for binoculars.

Pluto at opposition on 25th July.

Proper darkness from 19th July!

Noctilucent cloud season is coming to an end though they were still about on 10th July

Perseid meteor shower on the 12th August but there will be a just after full moon brightening the sky.

Upcoming Meetings

Aug 20 Joe Williams *From Assembly to Atmospheres: Examining Exoplanets at Exeter*

Sep 17 Professor Chris Lintott *The Accidental Universe*

Oct 15 Gadgets and Gizmos followed by Observing Session

Nov 19 Heather Johnston *The rise and fall of the giant planet occurrence rate*

Dec 17 Arthur Davis lecture and Christmas Social

Events

Redstart School Thursday 29th January