



Ayrshire Astronomical Society

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This Month's meeting – 24th February 2014

Hi Everyone,

Welcome to the February issue of the AAS newsletter

Last meeting:

It came as sad news that Stef has decided to hang up her hat as editor of the monthly newsletter. I would like to thank Stef on behalf of everyone at the society, for all her hard work over the past years and her efforts in the development of the AAS newsletter. Stef has changed the newsletter from what used to be a single sheet flyer, into the professionally laid out mine of information which we have come to enjoy.

We had an interesting and entertaining presentation from Paul and Alan concerning the upcoming star camp. The dynamic duo have worked hard putting it together, let's hope that there is a good turnout.

This month's meeting:

This month's guest speaker is :

John Pressly (Coats Observatory)

Speaking on

Scottish Astronomy: A Historical Perspective.

Quick info

The newsletter will be shorter than usual this month due to the unexpected handover of editorial duties to a complete novice.

Any future contributions to the newsletter can be sent by e-mail to the following address.

newsletter@ayrastro.com

I will be able to access contributions from there.

(or just hand them to me (George) at the meetings).

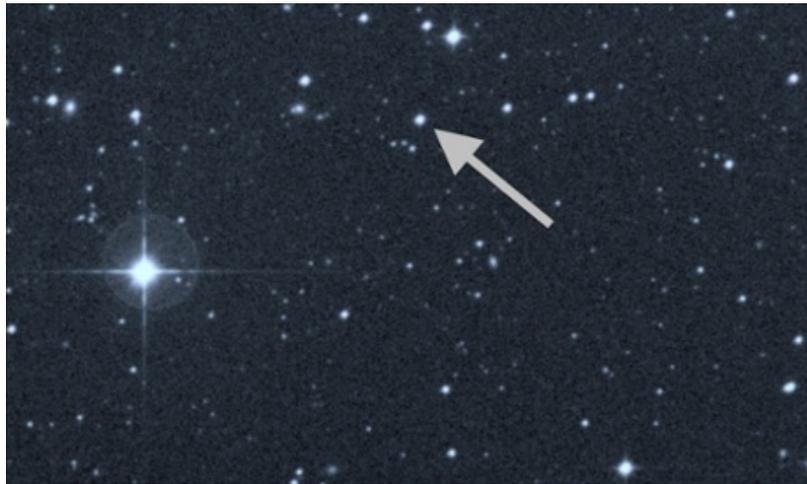
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Australian astronomers discover oldest known star in universe

13.6bn-year-old heavenly body is a time capsule that allows scientists to study the chemistry of the first stars



The star discovered with the SkyMapper telescope at the Siding Spring observatory near Coonabarabran. Photograph: Space Telescope Science Institute/AAP

A team of scientists at the Australian National University has discovered the oldest known star in the universe. The discovery of the heavenly body, which formed about 13.6bn years ago, has allowed astronomers to study the chemistry of the first stars.

Lead researcher Dr Stefan Keller of the ANU's Research School of Astronomy and Astrophysics called the find a "one in a 60m chance".

"I was pleasantly surprised," Keller said. "It was very much a needle-in-a-haystack situation."

The team discovered the star using the university's SkyMapper telescope at the Siding Spring observatory near Coonabarabran in northern New South Wales.

The wide-field telescope is being used to search for ancient stars as part of a project to produce the first digital map of the southern sky.

At the heart of the telescope is a digital camera that uses 268m pixels to capture an area of sky 29 times larger than the full moon every minute.

"Just by imaging the colours of stars, we can tell which stars are prime candidates of being the oldest," Keller said.

"We can tell how much iron it has – the more iron, the younger the star.

"In the case of the star we have announced, the amount of iron present is a factor of at least 60 times less than any other star."

He described the discovery as a "time capsule" providing new information that defied earlier beliefs about some of the first stars.

He said the newly discovered star had formed in the wake of a primordial star, which had a mass of 60 times that of the sun and died in a supernova explosion.

Keller and his team's discovery, which was confirmed using the Magellan telescope in Chile, is published in the latest edition of Nature.

Alex's Space

Seeing is believing

by Alex Baillie

How many galaxies or nebulae are visible to the naked eye ?

Is it less than 25, or perhaps more than 100 ?

The answer is three, 4 if you count the milky way.

This is rather disappointing considering there are millions of galaxies in the universe each containing millions of stars!

The visible galaxies are – Andromeda (M31) in the Northern hemisphere and the small and large Magellanic clouds (or Nubeculae Magellani) irregular dwarf galaxies in the Southern hemisphere.

Some people with exceptional eyesight claim to be able to see three more – M33 in Triangulum, M81 in Ursa Major, and M83 in Hydra, but this is very hard to prove.

The number of stars supposedly visible to the naked eye varies wildly, but just under 3000 seems to be the accepted number when viewing from a single point on the Earth surface.

Apparently there is a website (www.star-registration.co.uk) where you can have a star named after yourself, a friend, or a loved one. It lists stars which are visible to the naked eye from the U.K. and Ireland, and for a price (ranging from around £25 to £80) you can name a star, which will be listed on the company registry. These stars already have historical or scientific listed names, (so more for a bit of fun really).

To see or not to see

By Alex Baillie

What man-made object or objects can be seen on Earth looking from the Moon with the naked eye?

No! not the Great wall of China, despite “Trivial Pursuit” telling you otherwise! In fact no man-made artefacts at all can be seen from the moon with the naked eye, even the continents are barely visible. But !!! —If the question had been -- “What man-made objects can be seen from space with the naked eye?” then the Great wall of China would have been a correct answer gaining you Brownie points.

This is because “space” is quite close to us.

When just speaking of “space”, an asker might mean anywhere from the edge of space (Kármán line) at an altitude of 100 kilometers (62 mi) to Low Earth Orbit (160–2,000 km), to Apollo 12’s orbit at 290 km (180 mi), to the Moon, which orbits about 381,415 km (237,000 mi) away.

The Great wall of China would be visible from just above the Kármán line, technically space, but not from low earth orbit (only another 60 kilometers away), to achieve this would require visual acuity 8 times greater than normal.

Other man made objects visible with the naked eye from space would include: Cities at night, The Greenhouses of Almeria, and unfortunately, some disasters such as the Deepwater Horizon oil spill in April 2010.

Dear All

We have received an invitation from the Kilmarnock Science and Engineering Society to attend their meeting on Wednesday the 14th of March when they will be showing a film about the life of Stephen Hawking followed by a talk by Prof Martin Hendry. Please see the attached poster. Entry is free and all are welcome. There is parking available at and around the venue.

Poster for event on next page.

Kilmarnock Engineering and Science Society

"HAWKING"

Wednesday 19th March 2014, Assembly Hall, Kilmarnock Academy,
Elmbank Drive, Kilmarnock KA1 3BS . 6.45 - 9.30 pm

As part of National Science and Engineering Week 2014, the Kilmarnock Engineering and Science Society (KESS) is hosting a schools event on the evening of Wednesday 19th March 2014 for all 5th and 6th year secondary science school students in East Ayrshire. The event will celebrate the life and work of Stephen Hawking FRS, retired Lucasian Professor of Mathematics at Cambridge University.



The evening will commence with a showing of the biopic "Hawking" - see the following link which includes a link to the film trailer

<http://www.hawkingfilm.com/>

After the film (at approximately 8.30) Professor Martin Hendry, Head of Physics and Astronomy at Glasgow University and an internationally eminent cosmologist, will deliver a short lecture which will explain more about the research achievements of Stephen Hawking. The evening will conclude with a representative of each of the 9 secondary schools in East Ayrshire being presented with a copy of Stephen Hawking's best seller - "A Brief History of Time" to take back to their respective school library.