

Astronomy for all

General Observing Information Sheet



Introduction

This information sheet is aimed at the novice astronomer or anyone who is curious about astronomical events. It is assumed that the observer will not have access to a telescope though a pair of binoculars may come in handy for some observational targets.

If you have any queries about the content or questions in general please email me, though I should point out that I am an amateur and may have to do a bit of research if your question is complex. ☺

Thanks for your interest,

Paul

Observing Tips

- **Dressing** – Wear several layers of clothing, 2 or 3 pairs of socks are preferable to 1 thick pair. Warm boots, hat, gloves and scarf. Take a flask of hot coffee or tea out with you because you'll want to avoid returning to the lights of the house once your eyes are dark adapted. (See below)
- **Location** – The amount of local light will reduce the number of stars you can see dramatically. Find a location away from direct lights. The darker the better.
- **Dark Adaption** – It takes your eyes at least 20 minutes to become adjusted to the darkness. Lights from car headlights, streetlights, torches etc will spoil your dark adaption so try to avoid these. Red light doesn't spoil your dark adaption as much so, if you need to refer to a sky chart, try to use a torch with a piece of red film covering the lens.
- **Light Pollution** – This is a serious issue for not only astronomers but environmentally. Unnecessary light from streetlights & security lights wastes millions of pounds worth of energy every year, has a detrimental effect on the ability to see the wonderful night sky and also affects wildlife to an extent as it never really gets dark in many towns or cities. Some politicians and many of those in the public are currently campaigning for reductions in light pollution. There is a growing light pollution problem here in Scotland and a campaign is underway to pass an act to make light intrusion a statutory nuisance as it is now in England and Wales. See the links section for the Campaign for Dark Skies.
- **Avoid the moon** – Like a streetlight the moon is effectively a source of light and the brighter the moon the fewer stars you will be able to see. Sometimes this is impossible as it'll be typical that, on a night when the moon is not visible it'll be completely cloudy! Astronomy can be a frustrating hobby.
- **Get your bearings** – Once you have found the star Polaris (also known as the North Star) you can then determine where you are looking in relation to the compass points.
- **Identify Constellations** – Once you know the constellations, finding things in the night sky is a lot easier.

- **Planet Spotting** – See if you can locate one of the planets listed for this month by referring to the charts supplied. Hint – Planets don't "twinkle" like stars. Stars appear to twinkle due to disturbances in the atmosphere planets suffer less from this and appear steadier.

Meteor showers and how to observe them

When comets pass through space, they leave behind a trail of dust and ice. If the Earth then crosses this trail, these comet fragments will burn up in our atmosphere. From the ground, we see them as jets of bright light, shooting across the sky. The Earth follows the same path around the Sun every year. So it always crosses a comet trail at the same point in its orbit, and we see meteor showers at the same time every year.

They are usually named by the constellation from which they appear to emanate. This is called the "radiant". The number of meteors that an observer is likely to see over the period of an hour, directly overhead at a dark location is called the Zenithal Hourly Rate or ZHR. Light pollution will reduce this number.

It is best to view meteor showers without the use of binoculars or telescopes. Ideally lying on a sun lounger, warmly dressed with a blanket over you and looking about 30 degrees to the side of the radiant is the best however looking straight up is fine if you can't work out where the radiant is. Note: The point directly above your head in the sky is called the Zenith.

Internet Links and Contact Information

East Kilbride Science Talks by Dr. Ravi Singhal
<http://www.scottishastronomers.com/EKtalks.htm>
Email EKtalks@yahoo.co.uk

The Campaign for Dark Skies
<http://www.britastro.org/dark-skies/>

Clubs, Societies & Groups

Scottish Astronomers dot com
<http://www.scottishastronomers.com>
The British Astronomical Association
<http://www.britastro.org>
Glasgow Astronomical Society
<http://www.astronomicalsocietyofglasgow.org.uk>
Scottish Astronomers Group
<http://www.scottishastronomers.info>

Discussion Forums

Stargazers Lounge
<http://www.stargazerslounge.co.uk>

Weather

Weather Forecasts for Astronomy
<http://metcheck.com/V40/UK/HOBBIES/astronomy.asp>