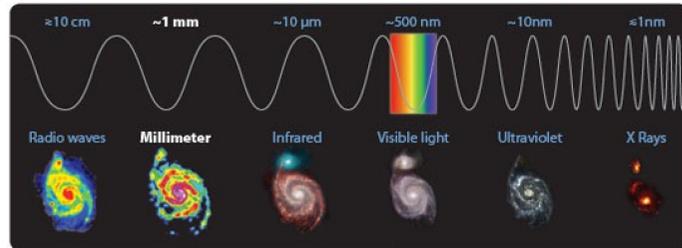


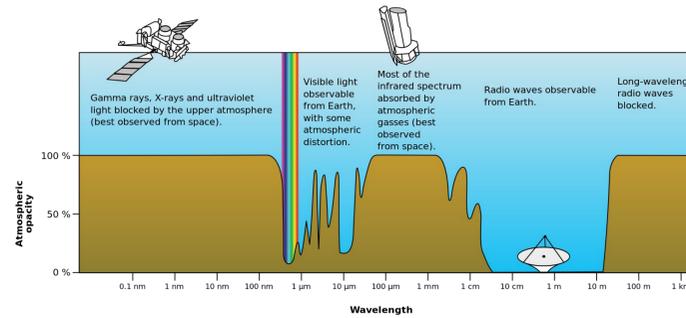


Altrincham & District Astronomical Society

Venue: Timperley Community Centre, Park Road, Timperley WA15 6QQ



Visible light is just one narrow band of a whole range of frequencies of electromagnetic radiation. By observing in radio waves we can get a completely different perspective about an object, than if we only observed in visible light alone.



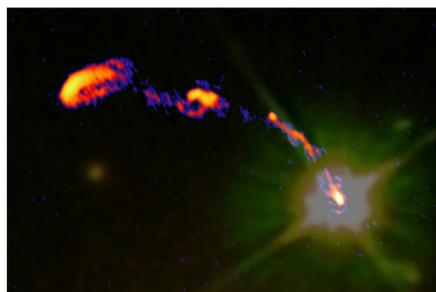
Most electromagnetic radiation is blocked by the Earth's atmosphere, however there are some parts of the spectrum which can pass through, allowing us to see stars in visible light, and also observe shorter wavelength radio waves. With radio waves, you can do astronomy in broad daylight and even when it's cloudy – unlike with visible light!



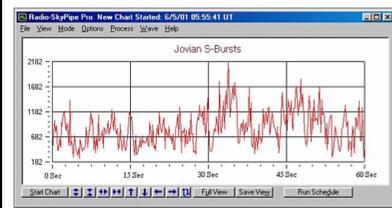
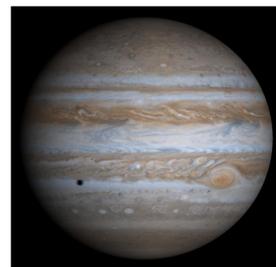
Jodrell Bank Radio Telescope

In order to “see” radio waves, we need to build a radio telescope. The famous 76m wide dish of the Lovell Telescope was built at Jodrell Bank in 1957 and is still going strong as part of a network of linked radio telescopes.

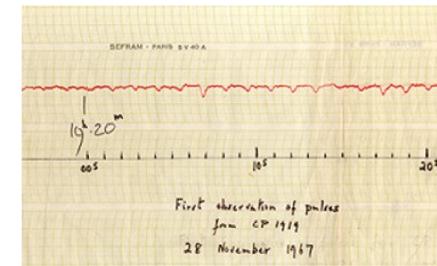
RADIO ASTRONOMY



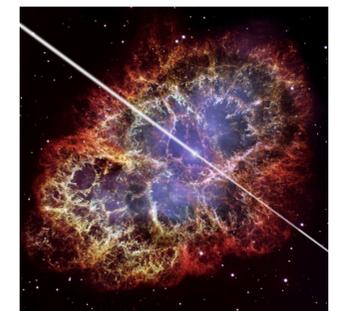
Sometimes the radio source is far away. Quasars are distant galaxies with a central black hole. There are strong radio emissions associated with huge jets of plasma. They can be billions of light years away.



Sometimes the radio source is closer to home. Jupiter's strong magnetic field and the large moon Io can cause radio emissions detected here on Earth or so – but some rotate hundreds of times per second.



Jocelyn Bell and the discovery of the first pulsar in 1967



The Crab Nebula – with a central pulsar

Pulsars are rapidly rotating neutron stars – the remnant of a dead star following a supernova explosion. They are incredibly dense, the size of a city. As they rotate, if we're on the right line of sight, we can see a pulse of radio waves – a bit like a cosmic light bulb. There's a famous example of a pulsar in the Crab Nebula – the remnant of a star which was seen

50th ANNIVERSARY OF THE ALTRINCHAM & DISTRICT ASTRONOMICAL SOCIETY, NOVEMBER, 2014