

planetary nebulae

a shell of gas expanding outwards from a star in the later stages of its evolution, between the red giant and white dwarf stages

positron

a positive electron; an antiparticle

proton-proton chain

a series of nuclear fusion reactions by which stars generate energy; the overall effect is to convert 4 hydrogen nuclei into 1 helium nucleus

pulsar

another name for a neutron star

quark

the fundamental building blocks of matter

radioactivity

the spontaneous breakdown of an atom by the emission of alpha and/or beta and gamma rays

red giant

a star in its larger stages of evolution after it has moved from the main sequence and expanded to a size hundreds of times larger

red shift

the shift of the spectral lines from a receding light source, towards the red end of the spectrum

spectroscope

an optical device used to disperse light from a source into its spectrum

star

a vast mass of gas hot enough to initiate fusion reactions

stellar equilibrium

the balance between the forces of gravity causing a star to collapse, and the outward forces due to the energy released in nuclear reactions

stellar evolution

the different stages in a star from its birth to its death

sunspots

cooler areas on the Sun's surface; also areas of weaker magnetic fields

supernova

the end result of a massive star, which explodes and increases in brightness by 1 billion times or more; in the explosion the heavier elements are formed

ultraviolet

electromagnetic waves with wavelengths shorter than violet light

universe

everything that exists

white dwarf

a star at the end of its evolution; its mass similar to the sun with diameter the size of the earth; no nuclear processes are continuing, and it eventually ends up as a cold black dwarf

x-ray

high frequency
electromagnetic waves
of high penetration
