

Planetary Nebula NGC 7027



Location: In the constellation 'Cygnus'
Distance from Earth: 3000 light-years
1 light year = 6 trillion miles or almost 10 trillion kilometers

The following is an excerpt from
http://en.wikipedia.org/wiki/NGC_7027

NGC 7027 is one of the visually brightest planetary nebulae. It is about 600 years old.

It was photographed by the Hubble Space Telescope in 1996. Prior to these observations, NGC 7027 was thought to be a proto-planetary nebula with the central star to cool to ionize any of the gas, but it is now known to be a planetary nebula in the earliest stage of its development. The central star is believed to have been about 3–4 times the mass of the Sun.

Despite being so well known and studied, NGC 7027 does not have a popular name. In a 6" telescope at around 50x it appears as a relatively bright bluish star. It is best viewed with the highest magnification possible.

It is unusually small, measuring only 0.2 by 0.1 light-years whereas the typical size for a planetary nebula is 1 light-year. It has a very complex shape, consisting of an elliptical region of ionized gas within a massive neutral cloud. The inner structure is surrounded by a translucent shroud of gas and dust. The nebula is shaped like a prolate ellipsoidal shell and contains a photo dissociation region shaped like a "clover leaf". NGC 7027 is expanding at 17 kilometers per second (11 mi/s). The central regions of NGC 7027 have been found to emit X-rays, indicating very high temperatures. Surrounding the ellipsoidal nebula are a series of faint, blue concentric shells.

The various colors that are displayed with different filters for this Nebula allow for many different interpretations. I sometimes wish I had a more 3-D medium to work with – the shapes of the Nebulas and the gas clouds are so amazing! I know the colorway name at first glance seems odd, but from the very beginning, this colorway was firmly set in my mind as '7027'. I hope you enjoy it as much as I do!

