

Our Night Sky for November 5

As we leave a lovely summer and fall behind and cold weather becomes the norm, most of us will probably not linger outside under our winter skies. But I recommend you stop for a few minutes and have a good look at the constellation Orion. I've mentioned Orion before as the guardian of our winter skies with his bow and sword, but take a moment and have a good look at Betelgeuse, the upper left shoulder star. Betelgeuse is in the late stages of its life. This red giant is 640 light years from earth and poses no risk to earth but it will explode spectacularly. Betelgeuse is about 700 times larger than the mass of our sun. Giant stars burn through their fuel in millions of years instead of billions of years like our quite ordinary sun which is estimated to have only used half its fuel in three and half billion years.

The process of a star's death is well understood and while we don't have time today to go into detail, I can say that as a star works its way through its fuel and the nuclear processes can no longer support the enormous weight of the star, it will eventually collapse upon a solid compressed core of neutrons pressed together in a solid unmoveable mass. This collapse will rebound off the core in what is known as a super nova which we will see for months at about the brightness of half a full moon.

When? In astronomical timetables it could be tomorrow, it could be in a thousand years, but it will happen.