SPACE awareness

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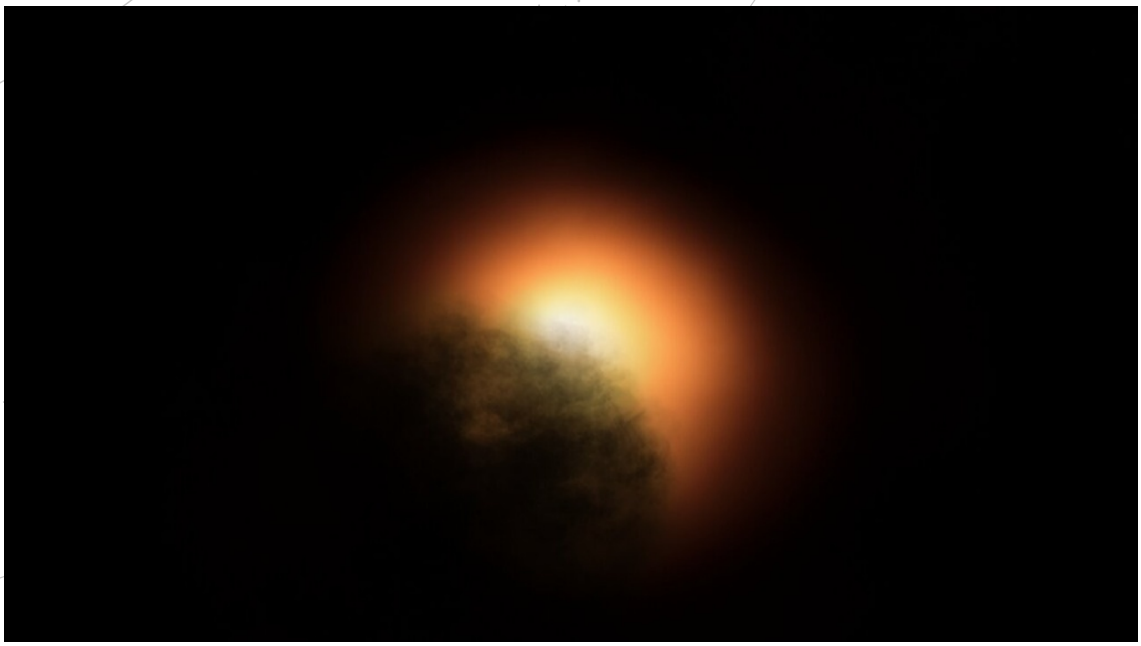

The Curious Case of Betelgeuse

13 août 2020

Back in late 2019, astronomers captured the peculiar dimming of the star Betelgeuse (you say the name as "Beetle-Juice") in the constellation of Orion. The star's bright light was fading and astronomers were unsure as to why (see our old Space Scoop about it here).

New findings from the NASA/ESA Hubble Space Telescope have now offered an explanation as to this mysterious dimming of the star involving a dust cloud.

A Red Giant

Betelgeuse used to be an average-sized star, just like the Sun. But as Betelgeuse got older and it ran out of hydrogen fuel to burn, it grew bigger in size and redder in color, turning it into a red giant star. If you replaced the Sun in our Solar System with this star, it is so wide that it would reach as far as the planet Jupiter!

The Dimming Event

Betelgeuse has been a beacon in the night sky for sky watchers but it began to dim late last year (you can see the Space Scoop about it here). The star was about 36% of its normal brightness, a change that is noticeable even to the naked eye.

Many astronomy enthusiasts wondered if Betelgeuse's dimming meant that it was about to explode. Like all red supergiants, Betelgeuse will one day experience an explosive death known as a supernova. These explosions are amongst the most energetic events in the Universe and are so bright they can outshine an entire galaxy!

Hubble Uncovers the Mystery

However, astronomers now understand that an upcoming supernova event is unlikely.

Observations by the Hubble Space Telescope have offered a new explanation. Astronomers now believe the dimming was caused by a dust cloud that blocked the star's light. The cloud was likely caused by hot material that was ejected from the star and eventually cooled into a cloud of dust.

Image credit: ESA/Hubble, M. Kornmesser

COOL FACT!

Our Sun will eventually become a Red Giant star like Betelgeuse – but not for another 5,000,000,000 years!