



Astronomers Clear Up a Dusty Mystery



13.8 billion years ago the most important event in history took place – the Universe exploded into life in the Big Bang.

In the first moments after the Big Bang, the Universe was extremely hot and foggy. Within a few millionths of a second, the Universe cooled creating conditions that were just right for the building blocks of matter to form.

Almost 400,000 years later, helium and hydrogen were first created. These are still by far the most common materials in the Universe. Then 1.6 million years later, gravity began to pull stars and galaxies into existence from clouds of these gases.

Since then, all of the heavier materials in the Universe, such as carbon, oxygen and iron, have been produced in the hearts of stars and catapulted throughout the Universe when they come to the end of their lives. These are the materials from which we are all made.

What has been unclear until now, is how these raw materials could clump together into grains of cosmic dust without being destroyed by the harsh environments in which they are created. Well, we're now one step closer to finding out!

Astronomers have been studying a supernova called SN2010jl, which an artist has depicted in this picture. And for the first time they've managed to measure these heavy materials clumping together to form cosmic dust grains, just a few short weeks after the violent explosion. Not only that, but these dust grains are the largest and strongest we've ever seen!

COOL FACT

The soot from a candle is very similar to cosmic dust, although soot grains are 10 or more times bigger than those found in space!



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