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NEW DISCOVERY SHOWS GLASS MADE FROM EXPLODING STARS

Relevant for: World & Indian Geography | Topic: The Earth ? its Origin and Evolution, Interior of the Earth and Materials of the Earth?s Crust

Silica makes up around 60% of the earth’s crust and one particular form, quartz, is a major ingredient of sand. | Photo Credit: Getty Images

The next time you’re gazing out of the window in search of inspiration, keep in mind the material you’re looking through was forged inside the heart of an exploding ancient star.

An international team of scientists said on Friday that they had detected silica — the main component of glass — in the remnants of two distant supernovae billions of light years from earth.

Researchers used NASA’s Spitzer Space Telescope to analyse the light emitted by the collapsing mega-cluster and obtain silica’s “fingerprint” based on the specific wavelength of light the material is known to emit.

A supernova occurs when a large star burns through its own fuel, causing a catastrophic collapse ending in an explosion of galactic proportions. It is in these celestial maelstroms that individual atoms fuse together to form many common elements, including sulphur and calcium.

Silica makes up around 60% of the earth’s crust and one particular form, quartz, is a major ingredient of sand.

As well as glass windows and fibreglass, silica is also an important part of the recipe for industrial concrete.

“We’ve shown for the first time that the silica produced by the supernovae was significant enough to contribute to the dust throughout the Universe, including the dust that ultimately came together to form our home planet,” said Haley Gomez, from Cardiff University.

“Every time we gaze through a window, walk down the pavement or set foot on a sandy beach, we are interacting with material made by exploding stars that burned millions of years ago.”

In 2016, scientists reported they had found traces of lithium — a metal used in the manufacture of many modern-day electronics — at the heart of exploding nova, a phenomenon that occurs when a white dwarf star absorbs hydrogen from a nearby sun.

The study was published in the *Monthly Notices of the Royal Astronomical Society*.

Fun facts or complex puzzles, science contains mysteries ranging from the minute to the magnificent. Taste science! Take this quiz!

On the eve of World Diabetes Day, WHO said that will continue to support all member states to empower families to tackle diabetes head-on and ensure

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