Discovered a new form of carbon, stronger than metal and more resilient than rubber

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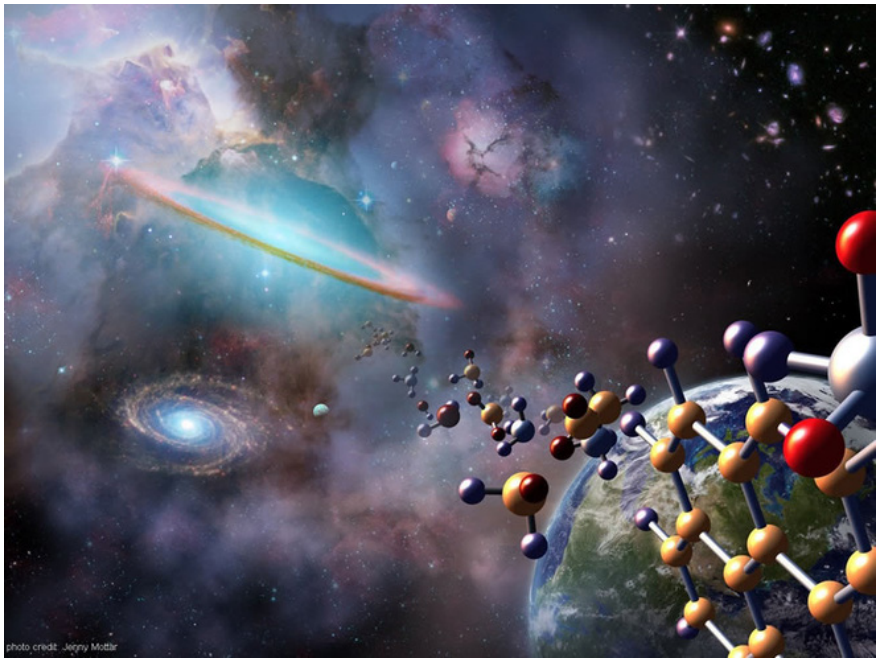
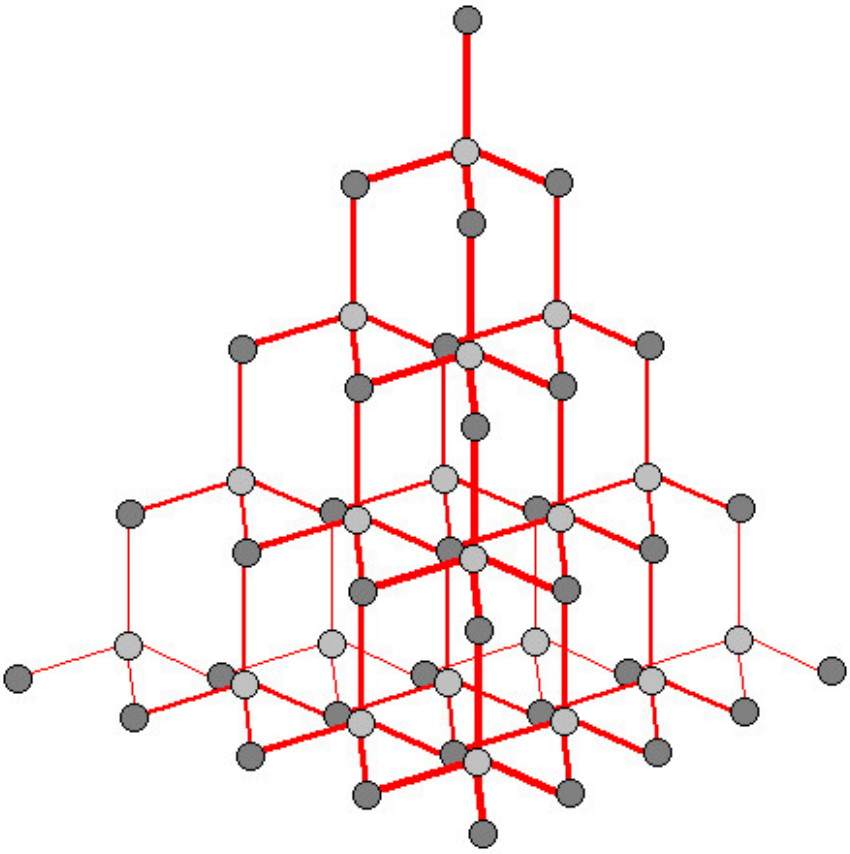
1. The world's blackest material can turn any object into a "black hole".
2. Physicists create matter with "negative mass"

The newly discovered element not only has a series of extraordinary physical properties, but also from the method used to find it, humans can apply it to discover a class of new materials never seen. ever.



Carbon is the 4th most abundant element in the universe, and the second most abundant element in our body (after oxygen). It is also an important component in most life on Earth.

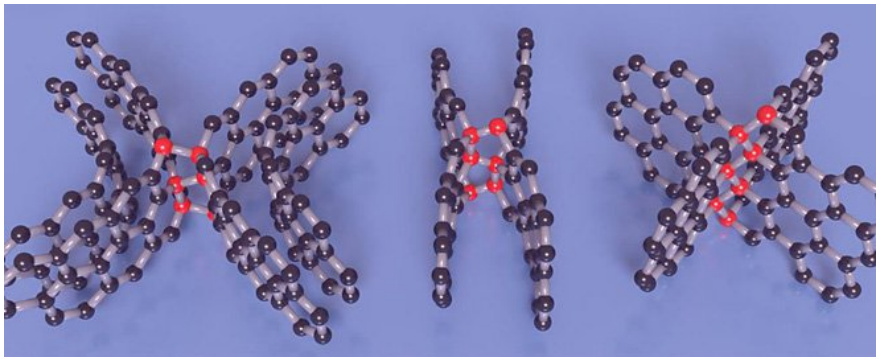
Carbon possesses the physical properties that few other elements have. In some atomic configurations, carbon will exist in soft, slippery graphite; But if arranged properly, carbon will exist in the form of diamonds - one of the hardest materials on the planet. Graphene is also another form of carbon and is considered to be the hardest material that science has ever known.



Diamond configuration of carbon.

And recently, researchers have created an extremely hard form of carbon but also very flexible by burning this element at 1,000 degrees Celsius and placing it under 250,000 times the normal pressure. The new ultra-light, high-strength carbon form, this good resilience can be applied in many fields, from prosthetic limbs to humans to materials that make spacecraft flying into space.

Zhisheng Zhao, a researcher from Yanshan University in China and his colleagues found the optimal conditions, helped to promote carbon binding, consolidation in a variety of configurations after many failed attempts. . They have obtained a new form of carbon that is configured like both graphene and diamond, and has graphene layers, which help it both have softness and strength. This new material is called the "compressed glass carbon" by the scientists.



The three different types contained in this new material, the black spheres represent the layers of graphene, while the red spheres represent diamond-like bonds.

According to experts, this new carbon form has outstanding advantages, promising to be applied in many industries:

1. Superior compression resistance - twice the normal type of ceramic material being used.
2. Resilience surpasses organic rubber, silica and even titanium-nickel conductor, which helps it cope with local deformations.
3. It is about 5 times stronger than ordinary metals and alloys.

The researchers hope that with the same technique, they can help find a range of new materials that have never been known.