

A New Concept for Compression

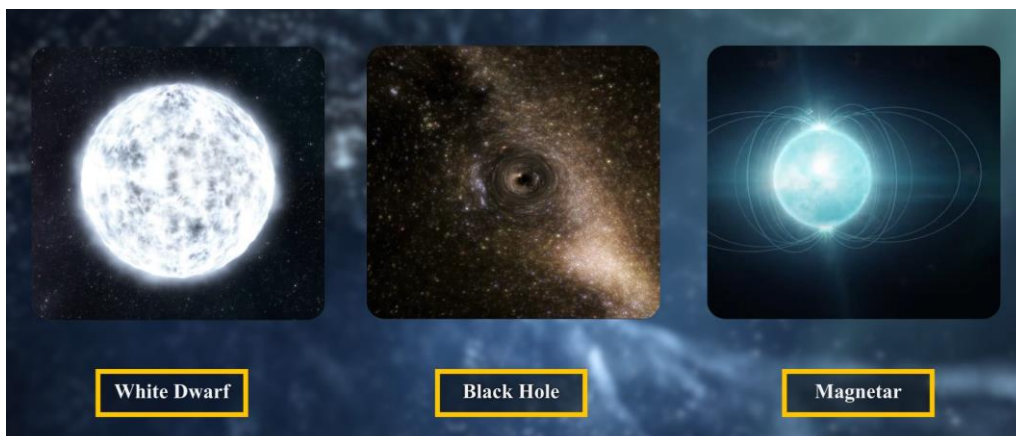
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If we look carefully at our own Sun, we can perceive that it is a gaseous mass that has been compressed by gravity and turned into plasma. Simple hydrogen gas has a density about $0.1 \text{ (Kg/m}^3\text{)}$ and the density of the Sun is $10^3 \text{ (Kg/m}^3\text{)}$. In fact, by the effect of gravitational force, the volume of simple hydrogen is reduced to 10^{-4} times. In fact, it can be said that the greater the density of a matter with constant mass, the lower its volume so they must have more hardness. But there are exceptions, such as Mercury, which due to its density approximately twice as much as Iron, is a smooth metal whose hardness is about zero. And some materials like plastic, which has a low density but high hardness and compression.



It should be noted that in dense matters such as white dwarfs, magnetars and black holes, the amount of gravity has affected on them and the matter is such a compact mass, but it does not mean that its hardness is high.



Regarding the Big Bang phenomenon, it is usually thought that its constituent matter is dense, but we must note that the Big Bang is composed of the sub-photon whose radius is 10^{-9} times the radius of the photon, and the smallness and high attraction force between them create such a high dense globe. [1] In fact, if we want to give a vivid example, after the collapse of a star due to the collapse of the atomic structure, the white dwarf that is formed, only the nuclei of the atoms remain. It can be said that the density of the matter is due to this structure.

References:

[1][Saleh, Gh., “The most condensed material in the Universe; \$10^{25}\$ times of a black hole \(Cidtonium\)”, 2023.](#)

