

# A New Explanation for How Black Holes Are Created and Their Types

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Considering that our universe is about 14 billion years old and there are galaxies whose lifetime is about 13 billion years, it can be concluded that their core, black holes, was formed at the beginning of the Big Bang.

In fact, initial black holes are a part of the initial Big Bang that has the ability to create black holes with a density of  $10^{20} \text{ kg/m}^3$ . For more explanation, we note the following contents:

- A. Objects whose density is between 0 to  $10^6 \text{ kg/m}^3$ . Those include all types of elements and atoms.
- B. Matters whose density is between  $10^{14}$  to  $10^{20} \text{ kg/m}^3$ , such as black holes, white dwarfs and magnetars.
- C. Big Bang whose density is about  $10^{42} \text{ kg/m}^3$ .

Accordingly, there must be matters whose density is between  $10^{20}$  and  $10^{40} \text{ kg/m}^3$ , which are lost and unknown for us. Therefore, there are separated components from the Big Bang that have the density of  $10^{40} \text{ kg/m}^3$ . During the explosion of the Big Bang, all the types of different matters, including black holes, are created. In fact, the explosion of the Big Bang could create 3 types of black holes:

1. Regular black hole: black holes with an average density of  $10^{20} \text{ kg/m}^3$
2. Super black hole: black holes whose average density is about  $10^{26} \text{ kg/m}^3$ , And
3. Meta black hole: black holes whose average density is about  $10^{32} \text{ kg/m}^3$ .

For example:

The Milky Way galaxy has a regular black hole at its center, the Andromeda galaxy has a super black hole at its center, and the Pleiades, whose central galaxy has a Meta black hole at its center.

