

There is a Triple Cosmic Framework in the Universe

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Breaking the bottleneck of research in Astrophysics & Geophysics

PREFACE

Scientists have found that the full mass of the spiral galaxy is pulling high-speed peripheral planets, which can keep moving very fast without disengaging. When a star orbits at high speed at the edge of the spiral galaxy, the mass and rotational velocity of the star altogether can estimate the total mass of the spiral galaxy. There is a relationship between the type and absolute brightness of a star and its mass, so the mass of the star can be calculated according to the absolute brightness of the star. In addition, the number of different stars in the galaxy and the different mass of each star, to calculate the total mass of the visible matter of the galaxy, can also observe the spiral galaxy. The results show that the total mass estimated by the mass of the total stars observed by telescopes is much lower than the total mass estimated by the mass and velocity of the former star. Therefore, the galaxy seems to be hiding a large number of missing masses, which is called dark matter. Dark matter of the Universe puzzles scientists for more than 80 years, until now still no solution.

Cepheid variable star is recognized as standard candles, called Cosmic Distance Ladder, which is taken to survey distance of stars. In 2001, Freedman measured the brightness of 800 Cepheid variable star and calculated their relative velocity and position, confirming that the Universe was expanding and that galaxies were moving away from each other. In 1998, scientists from the data of 16 type 1a supernovae and 34 nearby supernovae published the observations of type 1a supernova, which can be taken as standard candles used to determine the distances of it. It unexpectedly found that the expansion of the Universe did not slow down at all, but the expansion of the Universe has been accelerating, and the rate was increasing. A much-unexpected acceleration in the expansion of the Universe led to the idea of an expansion force, dubbed dark energy.

This phenomenon has been interpreted by scientists as the effects of dark energy, but physical properties of dark energy have no any clue, and cosmographers don't know how it works, and doubt the possibility of the existence of it. In 2012, the Wilkinson Microwave Anisotropy Probe and 2014 the Planck Cosmology Probe had refined measurements with a final data of the present-day Universe: roughly, there are dark energy 68%, dark matter about 27%, and the rests — everything ever observed with all of our instruments and all normal matter — add up to less than 5% in the Universe.

Today's scientific development has reached a very high level, but in the natural sciences, research still encountered some bottlenecks, the biggest problem in dark matter and dark energy, which is the most headache for scientists. Scientists believe that dark energy is the force that tears the Universe apart, that dark matter condenses all things, and that the interaction of these two forces forms the structure of the Universe, as we know it today. As long as we can understand the assembling speed of

the galaxy, we can understand dark matter, also understand the power of dark energy tearing the Universe in the same time, so dark matter may be the best tool to study dark energy in the end. To understand dark matter now, I will probably get an answer from the most famous “String theory”.

String theory bases on the ten-dimensional space-time that is considered to universally exist. According to “Causality”, an effect cannot occur before its cause, which means time has a direction and cannot be divided into some different parts. So one-dimensional time is taken as a common standard in order of event in the Universe. According to “Anthropic Principle”, which is the simple fact that we live in a Universe set up to allow our existence. It means that three-dimensional space and one-dimensional time are taken as one Universe as our living world. Therefore, the nine-dimensional space can be divided into three portions, and each portion has a common standard time, these mean there is three-cosmic framework in the Universe, called the multiverse.

In the multiverse, among any another worlds, there is no basic interactive forces of nature except gravity, i.e. the theoretic graviton in the field of gravity can penetrate all the Universes; however, the light cannot. So dark matter may be situated in the Universes other than ours; in other words, the multiverse can contain dark matters. The best method of exploring dark matter is to start from the Earth where we live.

In the current Earth model utilized in seismological investigations, such as body-wave travel times, surface-wave dispersion and free oscillation periods for researching the chemical composition and the density distribution of the Earth, can analyzes some data of the Earth. According to the characteristics of the Earth's interior, equitably examining its constitution, composition, density and pressure from a different view of the core, the special arguments are put forward. It is inferred that the solid rock and the molten rock or the magma change states interactively at the CMB. According to this model, the chemical compositions are similar in both sides of the CMB, and the curve of density distribution is continuous.

In the low viscosity F-layer of the outer core, the high temperature causes some elements and oxides of magma to undergo oxidation-reduction reactions and separate due to its gravity. The great amount of heat is produced from the chemical reactions heat in F-layer and radioactive elements generated nuclear energy in the Earth's interior that causes the main power sources for the geo-dynamo of the great convection cell. It is the flow of the magma and the solid or molten rock migrating up to the crust and down across the CMB to the lowermost F-layer of the outer core.

Based on the new conception and applying a simplified method tries the different density distribution curves of model in the core to calculate the data of the Earth, and compared with the existing current data of the Earth. The insufficient mass and moment

of inertia are the missing matters, which are taken as the parts of dark matter, and then a suitable new Earth model is developed. Apply the simplified method to evaluate the Earth's mass and moment of inertia that are found to be only 85.73% and 94.82% respectively of the current data.

By the two insufficiencies of the Earth's mass and moment of inertia, formulating the reasonable assumptions, a dark planet inside the earth has been figured out, then calculate gravity and pressure in every depth within the Earth to check suitability or not. Finally, a planet of dark matter, called dark planet, a radius 3700.375 km, about 1.33 times of Mars, is reasonably inside the Earth in the extra dimensions of space other than ours. The new Earth model may be confirmed from Chandler wobble, and then some great scientific problems, such as: dark matter, dark energy and constitution of the Earth's interior etc., have been roughly solved. The 3-cosmic framework of the Universe is roughly established.

Although the whole framework of the entire Universe and the model of the Earth have been already deduced in this book, this is only a preliminary outline. I hope that can be able to throw the brick to lead the jade, receive the approbation of other scientists, so that the talent persons of younger generation more thorough research in this topic, with the most rigorous mathematics to interpret, and then use the latest technology, to test the truth of the Universe.

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