



## Dark Matter Revealed

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### Abstract

**Dark matter is hypothetical matter that supposedly suffuses the entire universe, filling the dark spaces between stars and galaxies. It is inferred to exist only because of a falsely presumed gravitational pull it appears to have on visible matter. Dark matter has none of the properties of visible matter nor any properties whatsoever, for the simple reason that dark matter does not exist.**

**Keywords:** *Dark matter; Matter; Universe*

### Introduction

Dark matter is hypothetical matter that supposedly suffuses the entire universe and fills the dark spaces between stars and galaxies. Dark matter is inferred to exist only because of the presumed gravitational pull it appears to have on visible matter rather than from any intrinsic luminosity [1].

Originally known as the “missing mass”, dark matter’s supposed existence was first inferred by Fritz Zwicky, who in 1933 discovered that the mass of all the stars in the Coma cluster of galaxies provided only about one percent of the mass needed to keep the galaxies from escaping the cluster’s presumed gravitational pull [2].

In 1970, astronomers Vera Rubin and W. Kent Ford supposedly confirmed dark matter’s existence by the observation of a similar phenomenon: the mass of the stars visible within a typical galaxy is only about 10 percent of that presumed to keep those stars orbiting the galaxy’s center [3].

Measurements of its apparent gravitational effects on galaxies suggest that dark matter accounts for approximately 85% of the matter in the universe and about a quarter of its total energy density. Its presence is implied by supposed gravitational effects that cannot be explained

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by accepted theories of gravity unless more matter is present than can be seen. For this reason, dark matter is presumed to be abundant in the universe, having had a strong influence on its structure and supposed evolution [4-8].

Dark matter is called dark because it does not interact with observable electromagnetic radiation, such as light, and is undetectable by astronomical instruments. Primary evidence for dark matter supposedly comes from calculations showing that many galaxies would fly apart or not have formed if they did not contain a large amount of unseen matter. The total mass-energy of the universe is believed to contain 5% ordinary matter and energy, 27% dark matter and 68% of an unknown form of energy known as dark energy. Thus, dark matter is presumed to constitute 85% of total mass, while dark energy plus dark matter constitute 95% of total mass-energy content of the universe [9].

Dark matter is believed to be caused by some new kind of some as-yet undiscovered subatomic particle. Experiments to detect and study dark matter particles are being actively undertaken, but none have succeeded [5].

Dark matter cannot be seen by telescopes nor detected by any other means. Light passes right through dark matter, which neither emits nor absorbs light nor any other electromagnetic energy. Dark matter does not interact with normal matter and does not participate in nuclear fusion. Dark matter does not have any properties of matter. Dark matter does not have any properties at all, because dark matter does not exist.

In 2017, a sensitive detector (XENON1T) finished a 34-day run inside an Italian mountain [10]. This unit is 33 feet wide and includes a central tank that stores over three tons of ultra-pure xenon, which should have reacted with dark matter to produce dim flashes of light. Even though XENON1T is the most sensitive detector of its type, it did not see any dark matter reactions.

Dark matter was hypothesized to explain the presumed gravitational pull on galaxies that are supposedly keeping the universe from expanding too quickly. However, the universe is not expanding at all. There is no gravitational force controlling this non-expansion and no reason to postulate dark matter.

### **The Fundamental Error**

Over extreme distances, light attenuates according to the following equation:

$$c = \lambda f$$

Where,  $c$ =speed of light;  $\lambda$ =wavelength of light; and  $f$ =frequency of light wave.

The farther light travels, the greater the degree to which its frequency slowly diminishes as its wavelength correspondingly increases. We observe this phenomenon as a “redshift”, i.e. the tendency of visible light to drop toward the red end of the spectrum. The farther away a galaxy is, the more its light shifts toward the red end of the spectrum.

Unfortunately, for over 100 years astrophysicists have been misinterpreting redshift as a doppler effect in which the light source is supposedly moving away from the observer at high velocity [11]. Redshift and doppler are two fundamentally different phenomena. Redshift is attenuation whereas doppler is distortion.

Redshift attenuation applies to light waves, which are transverse (i.e., oscillate perpendicular to their path) and do not require any medium through which to travel. Doppler applies only to sound waves, which are longitudinal (i.e., vibrate parallel to their path) and propagate by compression and rarefaction of the medium through which they travel (e.g., air, water, solids).

Redshift is a function of distance from stationary light sources. Galaxies are not moving away from each other. They are in the same positions relative to each other that they have always been in [12]. The alleged “big bang” never happened, and Hubble’s law is a fatally flawed theory [11].

The universe is not expanding. There is no gravitational force opposing any falsely presumed rate of expansion. Dark matter is thus a fictional diversion that obscures cosmology rather than explains it.

### **Dark Energy**

Scientific errors tend to be hierarchical. First level in this scenario is the redshift error upon which faulty big bang and expansion theories are based. Second level is erroneous dark matter postulated to explain why the universe’s rate of expansion appeared to be slowing down. Third level is erroneous dark energy postulated to explain why recalculations seemed to indicate that expansion may be speeding up [13-17].

Both dark matter and dark energy are examples of misinterpreting evidence to support the theory rather than changing the theory to explain the evidence. For many decades, astronomers could have asked themselves these two questions: (1) Does non-material dark matter make any sense? (2) What assumptions are we making that led us to postulate a mysterious substance that has no properties? Perspicacious answers to these questions would have revealed astrophysics’ biggest blunder of the century, that of mistaking redshift attenuation for a doppler effect.

In 1998, dark energy was allegedly “discovered”. Thus, for the last two decades astronomers could have asked themselves these two questions: (1) Does it make any sense to postulate unknowable dark energy as a force in opposition to unknowable dark matter? (2) What assumptions are we making that led us to postulate a mysterious substance and a mysterious form of energy, for neither of which is there any physical evidence for their existence? Again, discerning answers to these questions would have revealed astrophysics’ classic blunder of all time, that of mistaking redshift attenuation for a doppler effect.

### **Conclusion**

The universe is not expanding. There are no mysterious forces playing tug-of-war with its rate of non-expansion, no dark matter and no dark energy opposing dark matter.

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