

Evidence for Dark Matter, Dark Energy, Higgs' Function, and More

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A good article detailing the evidence we have for Dark Matter is here:

<https://medium.com/starts-with-a-bang/five-reasons-we-think-dark-matter-exists-a122bd606ba8>

In that article, they list five distinct reasons that Dark Matter should exist:

1. galactic cluster studies
2. galactic rotation studies
3. CMB, cosmic microwave background, studies
4. galactic collision studies
5. large-scale structure formation studies

That's quite a bit of evidence from different directions and we would be hard-pressed to invent alternative explanations which are equally comprehensive.

For Dark Energy, the list is not so impressive. However, the article here presents a nice introduction to it:

<http://www.cfhtlens.org/public/what-dark-energy>

From that article, we can start our list of evidence:

1. supernova studies

From the following article:

<https://www.space.com/17549-dark-energy-real-universe-expansion.html>

we can expand the list to item

2. research into the Integrated Sachs Wolfe effect which is encouraging and seems to indicate Dark Energy actually exists – although obviously, our confidence in the concept cannot be as strong as that with Dark Matter.

Now we arrive at the Higgs' Function. Here, we're not debating the existence as Stephen Hawking did; we're addressing specifically *evidence for the function* of the Higgs, to imbue mass. Please refer to the following article to 'set the stage':

<https://phys.org/news/2018-06-mass-higgs.html>

In digesting the article, we realize we can at least **start** our list of evidence:

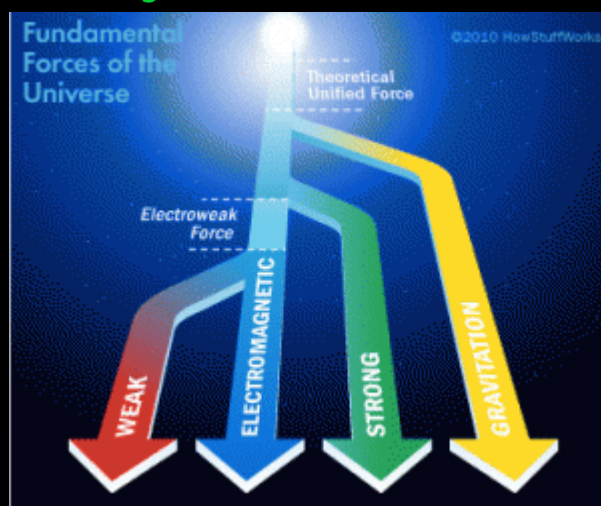
1. top-quark studies

which is certainly better than nothing and begins to pave the way for establishing the Higgs' Function as an accepted scientific fact – and not simply proposing a jiving extension of the Standard Model.

Please refer to the following article and skim:

<https://www.theskepticsguide.org/higgs-hullabaloo-it-may-not-be-what-we-think>

The article is divisive and unnecessary, for me, but here's a nice picture we can grab:



Notice in the middle they correctly identify the Electroweak Force, already accepted as part of the Standard Model. But what they fail to identify, because the article is about an alternative to the Higgs they call the Techni-Higgs, the region just above STRONG – between STRONG and GRAVITATION: what I call gravistrong. This is the theoretical unification between gravitation and strong-nuclear forces via temporal elasticity – *not* bosons.

At this 'stage of the game', we can only talk about exclusions and disallowed theories. Certain experiments would *disprove* this line of research:

1. antineutron decay rate / mean lifetime

Because it is *so* difficult to slow-down antineutrons, confine them, and observe them, convention has not allocated funds to determine the actual mean lifetime of the antineutron. They *assume* it's identical with that of the neutron, about 15 minutes. However in my framework,

because of the proposed associated effects of antimatter on time, it should be much shorter. Similarly,

2. anti- ^8Be decay rate / mean lifetime should be much shorter than that of 'normal matter' ^8Be .

But again, the **extreme** difficulty of producing and confining anti- ^8Be nuclei prohibits this experiment; convention cannot justify it. Finally,

3. does anti-hydrogen fall up or down?

The [AEgIS experiment](#) at CERN will try to determine this.

There is no published time-line regarding when they expect results. If anti-hydrogen falls down, it does *not necessarily invalidate* the proposed framework; **any** deviation from the behavior of matter in a gravitational field would have to be explained from 'both sides', convention's and mine.

Reasons for considering Temporal Elasticity as a basis for gravistrong:

1. it unifies General and Special Relativity
2. it provides a consistent framework for antimatter
3. it explains Baryon asymmetry and Dark Energy
4. it details the stages of the Cosmic Dark Ages

As we surveyed more conventional concepts, we uncovered 5, 2, and 1 sets of evidence for Dark Matter, Dark Energy, and Higgs' Function, respectively. If *only one* experiment mentioned above indicates Temporal Elasticity is a valid concept, it would put that concept on par with the Higgs.

That is something to consider.