

## Re: An explanation for the increasing expansion

**Source:** <http://sci.tech-archive.net/Archive/sci.physics/2004-09/4825.html>

---

**From:** brodix (*brodix\_at\_earthlink.net*)

**Date:** 09/11/04

Date: 11 Sep 2004 09:54:26 -0700

> > *TomGee,*

> > *Einstein proposed the cosmological constant because according to his  
> > calculations, gravity would cause the entire universe to collapse to a  
> > point.*

> >

> *Yes, but he did that so as to come up with a static universe, and he  
> included the whole of the universe.*

> >

Yes.

The original thought which led me to think the Big Bang wasn't a good solution was in reading Stephen Hawking's A Brief History of Time, in which he made the observation that for the universe to be as stable as it is, then the forces of expansion and gravity must be close to balance. Before that, the relationship never occurred to me. So the idea that there is symmetry between these two is a principle I'm working from, not one I thought of.

> >

> > *A good example of this theory are black holes and the extent to  
> > which they effectively collapse three dimensional space.*

> >

> >

> *But if that were true, and if it were also true that there may have  
> been many bhs created from the BB, would not that cause a conflict  
> with the "just-right" equilibrium balance of the universe? If space  
> were collapsed by bhs in the areas where they formed, and since their  
> creation are not an ongoing and regular natural event, wouldn't that  
> serve to slow the expansion somewhat, or at least to knock off the  
> already delicate equilibrium which keeps the universe from collapsing?  
> This collapse of space is not familiar to me, although current ideas  
> hold that bhs drag space around with their rotations. That is not  
> exactly the same as what you mean, I think.*

> >

The premise I'm working from is that the universe is infinite in time and space and galaxies and their attendant black holes have always

sci.physics: Re: An explanation for the increasing expansion

been evenly distributed.

> > > *And what and how "is shedding...radiation."?*

> > >

> > *Light, basically. As gravity contracts matter, it radiates the*

> > *constituant energy..starlight.*

> > > >

> *You say gravity contracts matter? Is that like "it attracts matter"?*

> *And what causes matter to radiate under such "contractions"?*

> >

Think of matter as a closed set and through entropy, is radiating its energy. I think the process of gravitational attraction is one side of the coin of a process of structural breakdown. It is becoming smaller because it is losing content. To this, I wonder whether black holes are in fact simply the eye of a storm and what is really happening is what we see; Complex structure of mass collapsing and radiating its constituent energy, with the center as just a point of focus, rather than a store of energy.

> >

> *I put it in quotes to show that I referred to space before and after a*

> *massive object has passed in it just like GR claims it happens.*

> >

Accepting the idea that the universe is infinite, then there is no such thing as space that is not populated by mass and energy, so that below a certain density, our ability to measure it is affected by increasing energy of radiated energy, which is the great majority of space, so this is what is expanding.

> *Well, I have accepted the concept of "expanding space", but I have*

> *never heard of collapsing space. How can you tell it happens?*

> >

The idea of space as curved is static. In a dynamic model, it is either expanding or collapsing. There is discussion as to what space is in the first place. The idea of space being curved in the first place is based on the assumption that it is nothing more than the three dimensional reference frame in which material reality exists and since this reality can only be understood subjectively, then it's meaningless to think of an objective frame, therefore it can only be conceived as being fluid. I would argue that space doesn't have a set reference frame, therefore any number of frame can define the same space, therefore space is effectively infinitely dimensional. I would also argue that there is an absolute equilibrium around which all of reality fluctuates. This is evident in that all the expansion and contraction balances out. The concept of matter and anti-matter that balance out material reality and so on (this opens another discussion as to the nature of time, etc.) This balance would best be defined as empty space. That is space as equilibrium, zero, not as reference frame. This ties into the idea of vacuum fluctuation as well.

> *No, according to Webster's Ninth, zero is the number between the sets*

> *of positive and negative numbers. In physics, it is the arithmetical*

Re: An explanation for the increasing expansion

sci.physics: Re: An explanation for the increasing expansion

> *symbol which denotes the absence of magnitude or quantity.*

> >

The assumption is that zero is the empty set, but a set is still a unit. It would be more accurate to describe it as the equilibrium state. It is a state rather than a point because as a point is still a specific reference. Geometry hasn't incorporated zero, as it starts with the point. Zero in geometry would be empty space.

> > *These two balance out so that the average is*

> > *effectively flat.*

> *How did you arrive at that conclusion?*

> >

As Hawking pointed out, as well as various other sources, if these were not very close to balance, the universe wouldn't be as stable as it is.

> > *In the two dimensional description of gravity, mass*

> > *depresses the sheet.*

> >

> *No, you're confusing gravity with curved space.*

> >

According to the descriptions of Einstein's thinking that I've read, these are effectively the same thing. The Equivalency principle. Gravity and an accelerating frame are the same.

> > *Where there is no mass, the sheet isn't flat, but*

> > *curves upward.*

> >

> *Upward to where? In the 2d description you mention, the sheet is*

> *indeed "flat" wherever there is no mass.*

> >

What we see as dynamic expansion in the static two dimensional model, as the opposite of gravity, would amount to a bulging in the opposite direction from the gravity wells. Given the extreme distances between gravitational sources, this would amount to a very slight bulge.

> >

> *What is not a pronounced effect?*

> >

Given the extreme distances between gravitational sources, this would amount to a very slight bulge..

> >

> *No. The "irregularities" were thought to be most likely when galaxies  
> were forming. How much of dark mass/energy exists was determined by  
> years of calculating the estimated amount of visible matter to the  
> amount of space inbetween and by calculating that galaxy clusters  
> should have long ago floated apart were it not for unseen forces  
> preventing that.*

No. Dark matter was proposed to explain why the outer parts of galaxies spin faster than the measurable mass would cause. Dark energy was required to explain why the redshift of the light of closer

sci.physics: Re: An explanation for the increasing expansion

galaxies is proportionally greater than that of more distant sources. According to Big Bang theory, the redshift of closer sources should be less as it was assumed that the expansion should be closing. So this enormous fudge factor needed to be added to explain why the rate of expansion is apparently increasing. Google it if you don't believe me.

> >

> *Yes, I've heard others say that too recently, but does anyone really believe today after Einstein's fiasco and Hubble's validation that the universe is not expanding? That must be a lulu of a math construct, indeed!!*

> > > >

All Hubble saw was redshift. The irony is that this could as well have been evidence of Einstein's cosmological constant.

> *Um, what about conservation of mass and energy? Particle pairs can "condense" out of nowhere, but they are allowed only because they immediately annihilate. And how does the radiation create elements?*

$E=mc^2$ . If matter can be turned into energy, it seems reasonable to assume energy can be turned into matter. If the universe is a convective process, this is one side of the cycle.

> > > >

> > *The argument has been that any effect of the light entering the gravity field is reversed as it leaves the field.*

> *But you said light would have to exceed c in order for change light back.*

> > > >

The aforementioned argument is the one I'm disputing.

> > > *Why wouldn't it be dark energy?*

> >

If dark matter were an entry on a tax form, the IRS would be all over it. It is a fudge factor.

> >

> *I don't see where expansion has to do with dark energy/matter. No one is saying that dark mass/energy is causing the expansion, only that they serve to hold galaxies together.*

Dark matter is proposed to explain galactic features. Dark energy is proposed to explain excess redshift.

> > *regards,*

> >

> > *brodix*