

# Re: Good News for Big Bang theory

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- *From:* "John (Liberty) Bell" <[john.bell@xxxxxxxxxxxxxxxxxxxxxx](mailto:john.bell@xxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* 27 Oct 2006 06:27:21 -0700
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George Dishman wrote:

John (Liberty) Bell wrote:

Both the reintroduction of the cosmological constant and quintessence were retrodictions after the fact of an astronomically observed failure to decelerate in accordance with the predictions of GR, if I understand correctly.

Well the CC was in the theory from long before the acceleration was discovered. It was assumed that the value of the CC would be zero which in hindsight was a mistake, science says that values should be measured, not assumed, and nature has given us a timely reminder.

Hmm. Why then did Einstein describe his original introduction of a CC as "the biggest blunder of my lifetime"? This hardly makes it sound like an essential mathematical parameter of his theory, which needed to be adjusted to fit observation.

If they are both 'fudges' in this respect, you have a 50-50 chance of your preferred fudge giving a better result than the other, just by pure chance.

Not true,

Check what I wrote. It is true.

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the form of the CC was defined long before  
and the form of quintessence is well defined from a  
conceptual point of view as well which mean both  
make numerical predictions that have few free  
parameters hence little scope for 'tuning'.

I did not say there was scope for tuning, just as there is no scope for  
tuning the 'curvature' of a straight edge. It is, after all, a  
constant. Nevertheless, you can choose any value of that constant you  
like, to give the best retrofit to subsequently available data, which  
is exactly what has happened, since its resurrection. What could be of  
potential concern is that since that resurrection, it is becoming so  
tightly constrained, that it will be virtually useless as a future  
fudge factor, unless the next step is to delete that potentially  
inconvenient word "constant".

This can hardly be  
claimed as a great success of the predictive power of GR with a CC,  
given the associated disasters that preceded this, in relation to  
predictions made involving prior assumptions about a CC.

Indeed, but I didn't make any such claim,

Then we have no argument.

I only  
pointed out that classing the fit of the WMAP data  
as "model building" is inappropriate since the form  
of the CC was set down decades ago.

Nearly a century ago, actually. Only the magnitude and sign have  
changed (so far).

Although I readily accept that we would not have got very far without  
GR, this particular example of predictive power sounds a bit like  
extolling the superior predictive power of a straight edge when  
employed to extrapolate a graphical set of known points, over, say, a  
French curve, or vice versa.

Again I would say you are arguing against a claim  
that I never made.

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Again, then we still have no argument. ; )

(Incidentally, [and slightly tongue in cheek in this respect], you may have already noticed that the age of the universe you get via the latest GR models with a CC, are remarkably similar to what you would get from straight line extrapolation of Hubble's constant, using a ruler.)

Oh yes, and that has certain implications for the overall density and the existence of dark matter.

Would you like to elucidate?

Similarly, do you (or Rob) know anything of resultant predictions (within the model) for the required rate or rates of acceleration of universal expansion. – And information on modern data that fits this (or doesn't).

Regards

JB

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