Re: LIGO.

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2007−03/msg00212.html

- *From*: anandsr21@xxxxxxxxx
- *Date*: 1 Mar 2007 21:13:33 −0800

On Mar 2, 2:24 am, "Eric Gisse" <jowr...@xxxxxxxxx> wrote:

> On Mar 1, 4:04 am, j...@xxxxxxxx wrote:
>
> > On 25 Feb, 01:17, "Eric Gisse" <jowr...@xxxxxxxxx> wrote:
> >
> > > Juan R. wrote:
> > >
> > > > On Feb 21, 10:38 am, "Eric Gisse"
> > > > <jowr...@xxxxxxxxx> wrote:
> > > >
> > > > > Black
> > > > > holes are discovered by
> > > > > explaining the orbits of stars
> > > > > − even though
> > > > > they are not directly visible.
> > > >
> > > > As was pointed to you (including references)
> > > > no BH has been discovered
> > > > in despite of many 'candidates' during
> > > > decades.
> > >
> > > The candidate objects behave exactly as if they were a black
> > > hole.
> > > Absent a better explanation, the term "black hole" sticks.
> >
> > What do *YOU* think the roughly 3 million solar mass
> > object at the

center of the galaxy is? Remember, it is dark in the electromagnetic
spectrum, flares are occasionally observed from the region consistent
with infalling matter, and it is constrained to be within area comparable to the area enclosed by Pluto's orbit.

> Then weak lensing showed
> us that dark matter is
> everywhere in the
> halos of galaxies
> _everywhere_.

> Precisely one of criticism to the GR+DM
> model is that cannot explain
> why hypotetical DM is present in some
> galaxies but is _not_ in others.
> The DM halo is always invoked _a
> posteriori_, when GR does not fit
> experimental data for some specific system.
> Other theories let
> rationalize the existence or absence of DM.

...but cannot explain the bullet cluster results.

> Then the bullet cluster was
> discovered − dark
> matter got a whole lot more
> substantial.

> Difficult to believe. See [1] comments on
> 1E0657−56 and related
> literature. There are several public rebutals
> to that distorted press−
> news claiming that dark matter was finally
> discovered.

Don't cite papers you didn't read. The bullet cluster putsMONDback

at square one.

Quoted from the paper you just cited:

Whereas Angus, Famaey and Zhao consider it possibleto explain the
lensing with a reasonable purely
baryonic matter distribution, a later paper by Angus, Shan, et al.
[87] concludes that dark matter is needed after all. This is hardly
surprising; as we saw in Sec. 3, pureMONDdoes not fully account for
the acceleration discrepancy in the dynamics of quiescent galaxy
clusters [10]. But DM models of the bullet clusters within GR are not
without their problems. Farrar and Rosen [88] note that the relative
velocity of the clusters is too high as compared to those seen in DM
simulations of structure formation. To remove the contradiction they
propose that a non−gravitational attraction of a new sort acts only
between clumps of DM. But is assuming existence of DM together with a
new interaction specific to it more parsimonious than a modification
of standard gravity such asMOND?

> I do think, though, that the evidence weighs in enough to make dark matter a viable concept.

No, DM is not viable because:

This will be good.

> i) There is not direct empirical evidence for
> it, just anomalous data
> _some_ people interpret as missing matter.

"Just" anomalous data? You mean "just" the bullet cluster results, and
"just" the galactic rotation curves?

> ii) There is not theory understanding
> composition of that strange new
> kind of matter, if any.

The particle physics crew would disagree. However, that is not a valid
complaint. Theory is constrained by observation, not the other way
around.

> iii) It is based in asumption GR works there,
> which is unproven. Since
> GR fails then DM was invented but nobody
> justified why GR would not
> break there. It is pure extrapolation.

Once again you talk about proofs in science. One would think the lead
'researcher' for the center of canonical science would know this basic
fact.

You have no evidence that GR fails anywhere in the macroscopic regime,
except for your personal beliefs.

> iv) The DM model is purely _ad hoc_. DM
> is added in enough quantities
> to galaxies with anomalous rotation curves

> and is not added to
> galaxies without the anomalous dinamics.

More talk about galaxies that are dark−matter free. I would think
those would be of great interest to astronomers, perhaps you have a
reference?

Of course the DM model is ad−hoc. It was an explanation for something
totally unexpected. However, it has withstood the test of time because
it has been shown that DM is not merely an artifact of
gravity itself.

> v) From an empirical point of
> view,MONDmodels using a single
> parameter are often more precise in fitting
> data that GR+DM models,
> even when later models use three or four
> parameters the fit to data is
> poor that withMOND, doingMONDmore
> satisfactory [2].

MONDis a crap model even before the bullet cluster results, which at
the very least putMONDon the same ground as classical theory, are
taken into account. It does not take into account _any_ relativistic
effects − it is simply a rescaling of Gm/r^2.

Your reference is interesting, but it is more interesting that the
Lamba−CDM model is the one that makes the best fit with the WMAP 3
year data. It should be noted that the L−CDM model has 6 free
parameters, rather than 3 or 4. Familiarize yourself with the topics

you seek to argue about.

http://arxiv.org/PS_cache/astro−ph/pdf/0603/0603449.pdf

Here is something moderately interesting as well:

Page 14

Table 3 shows that the power−law CDM is a significantly better fit
than the simpler
models. If we reduce the number of parameters in the model, the
cosmological fits significantly
worsen:

· Cold dark matter serves as a significant forcing term that amplifies
the higher acoustic
oscillations. Alternative gravity models (e.g.,MOND), and all baryons−
only models,
lack this forcing term so they predict a much lower third peak than is
observed by
WMAP and small scale CMB experiments (McGaugh 2004; Skordis et al.
2006). Models
without dark matter (even if we allow for a cosmological constant) are
very poor
fits to the data.

> Far from a common misconception between relativists,MONDis not more
> empirical than GR+DM. It is true that the ***original***MONDlaw was
> derived from direct empirism from a kind of observations but since

> MONDformulae has been _applied_ to cases
> for which was not initially
> considered and has continued to work when
> applied in the new
> situations.MONDhas done several
> ***serious*** predictions in places
> where GR has done _none_.

MONDis CURVE FITTING.

Can you name even one thing thatMOND[or TeVes] has predicted that
turned out to be true? I'm talking about predictions that aren't fitting to already−known results. I want to know if there is something
MONDhas predicted that was never seen before, and was validated by
observation.

> See also extensive comparison ofMONDvs
> GR+DM in [3] from ayone who
> initially worked in DM theories until
> experimental data tired out him.

You expect me to take that seriously when he does not support his
claims at all?

> Of course,MOND***alone*** cannot be the
> last reply.MOND(including
> relativisticMOND) may be posted in a firm
> theoretical basis, (I
> disagree with AQUAL, TeVeS, and all that).

> As a historical remark, I would point that
> dark matter is today
> playing the same role that missing planet
> (that planet never found) in
> the Newtonian theory of Solar system

gravity.

We call that planet Pluto these days.

[1] http://arxiv.org/abs/astro−ph/0701848

[2]
http://www.astro.umd.edu/~ssm/mond/fit_compare.html

[3]
http://www.astro.umd.edu/~ssm/mond/mondvsDM.html−Dölj
citerad text −

− Visa citerad text −

You stupid rant pluto is far to small and not even a planet. It was
not the missing planet the missing planet isn't there no more.

Go away, child. This is a conversation for grownups.

Why feed a troll. Better leave them in the kill file.

−anandsr

.