

Re: Quantum Mechanics: established fact?

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- *From:* T Wake <Usenet.es7AT@xxxxxxxxxxxxxx>
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In <448AF971.8040006@xxxxxxxxxxxxxx>, sent to sci.physics on Saturday 10 June 2006 17:54, srp (srp2@xxxxxxxxxxxxxx) had a brainstorm and wrote:

T Wake a écrit :

"srp" <srp2@xxxxxxxxxxxxxx> wrote in message
news:448A0D2C.2070105@xxxxxxxxxxxxxx

My view is. If something can be scattered against something,
then
that something physically exists. The rest is thin air to me.

The physical existence of something that can be scattered
against is
not an assumption to me.

No, but the lack of existence of everything else is.

In my view, it is not even in the picture. Concluded to be out of the
picture, if you wish.

Nothing wrong with that, but it is still an untestable assumption.

The validity of scattering as the only means
of a proof of existence
has to be proven though – otherwise this is
an assumption.

Maybe to you and possibly to the rest of the community. But
not to me.

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Ok, however leaving your head in the sand does not imply that a theory is based on a valid premise. Remember, your theory needs to convince people it is sound. If your only response to questions over its validity is as above then.... well...

My theory, like any other theory, does not need to convince anyone.

True. However, for it to spread it has to convince people

If it makes sense to someone before that person has made up his or her mind on some other theory, then that person will adopt it.

This carries the implication that it is not strong enough a theory to appeal to people. If it is scientifically valid then scientists will change their minds and adopt it.

There is no way to change a person's mind once it is made up.

Well, I don't really agree there.

Despite what people want, science has _lots_ of assumptions. You are trying to eliminate all of them and still have two.

Not my view. I have only one criterium, and it is proof enough of physical existence to me.

Ok. As long as you are happy. This provides little which can help advance the sum total of human knowledge and understanding.

Proof to you does not equate to proof to others though.

As I said, no _convincing_ is required. People that think an idea makes sense will adopt an idea.

Yes. Not the same as what is implied above.

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Let me get this straight – for my own thinking.

1 – you demand rigorous criteria for assuming validity (particle scattering)

Yes.

But I do not demand. I set that criterium for my own exploration.
Others do what they want.

2 – you assert that anything which cant be tested for doesn't exist

Yes.

3 – you also assert that anything not part of a working model doesn't exist

No. Never said that.

OK, maybe I misunderstood some of your earlier posts.

4 – you agree that we can recreate the Doppler based redshift here on Earth and it is seen in our measurements of the Sun

Sure. Very simple phenomenon.

Despite all the above, you feel it acceptable to add some previously unknown effect to account for the observed red shift in the spectra of large scale structures?

No previously unknown effect. Some very simple effect not well understood and not taken account of.

Why do you ask for the model to be more complicated while it answers the same question then?

Is that correct?

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With above mentioned reserves, yes.

The Doppler shift is not so much based on GR as the product of several theories (including the fundamentals of EM) and experiments conducted on Earth and within the solar system.

No disputing that. Hubble red shift still not proven to be strictly Doppler based.

It is not proven to be caused by any other effect.

My model hints otherwise.

OK and a fair point. However, what other reasons do you have to believe your model is more correct than the current one?

Does your model produce an expanding, contracting or steady state universe?

If it is anything other than expanding, what does your model use to explain the age of the universe and homogeneity of the CMBR?

Why add to the complexity of the model when we have one which functions and describes the observed data?

There is no way to add complexity to that model. If any other cause needs be taken into account, then the Hubble red shift becomes unusable to calculate distances as a strictly Doppler based shift.

Yet, the red shift data produces distances which match the parallax with very good accuracy.

If you say the model is wrong, how do you account for the matched data?

Once more, the Aether can be used as an example. You demand more rigorous proof of the cosmological red shift cause than you do to dismiss Aether. Any reason for that?

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I do not demand proof that the Hubble red shift is totally Doppler based.

I say that my model reveals that the cosmological red shift cannot possibly be caused entirely by a Doppler effect. The Pioneer spin slow down anomaly seems to confirm this direction since from my model, the cause would be the same as that of most of the Hubble red shift. Something that could be confirmed by a very simple experiment carried out in deep space.

Well, fair one.

Simple though the experiment may be it would take about thirty years to get the data back and collated.

Does your model make any other testable predictions?

Nothing about the Doppler–esque Red Shift of light from large scale structures is contradicted by Earth based experiments. In fact, it is supported by the fact we can replicate it on Earth.

What other verification would you require?

That light photon trajectories deflected by galactic masses on their way here do not use up some energy changing direction.

An interesting one.

While the "deflection" of a photon as it travels from Large Scale Structure X to Earth is not the same as (for example) bouncing off a wall, there is some. Mostly this is (according to GR) related to the curvature of space time.

I am talking about photon that travel about (and are deflected by) large scales structures on their way here.

Again, this is simply down to curvature of space time (according to GR).

It is a given that some of the red shift is accounted for by the distance involved, but not all – which is why H_0 is based on a distance to

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recession relationship.

In addition to this, it would imply that all photons suffer an equal proportion of direction changes based on how far away they are from Earth – independent of what masses are in the way.

No. It would depend on how many large deflecting structures they travel by on their way here. Since there is general approximate isotropy, then the farther they come from, the most deflected they will have been, and the more deflection related red shift will have accumulated.

Yet we don't see this. Photons show a red shift proportional to their distance, not the amount of mass between us and the structure.

Or are you implying that all the photons are arriving here after massive amounts of deflection and presenting a completely false image of the heavens?

Laws of sciences are always limited in their domain of applicability, if nothing else because they can only describe situations we can experience and re-create.

In my model, the electrostatic inverse square law is fundamental and universal, for example.

Well, I can agree that this has the best chances of being a "universal" law in the sense meant here, this has not been tested.

The inverse square applies to most interactions – which means you could probably expand this "law" to cover more than the electrostatic interaction.

This implies that the law is not fundamental as it is capable of being developed upon and expanded. As with pretty much everything we have in physics it explains a small part of a much larger picture.

Gravity can be overcome by a tiny magnet,

I don't think so. When you see a tiny magnet escape the Earth on its own, give me a call.

When you attach a fridge magnet to the fridge, the magnetic interaction between them has overcome the Earth trying to pull the magnet down. I

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have a lot of paper clips on my desk and the tiny magnet is powerful enough to overcome gravity and lift them.

Every atom in the molecules making up my hand are also held together by electromagnetic forces. When I raise my hand, they all remain together, apparently overcoming the Earth trying to pull them down.

The electromagnetic force in the atoms is *also* overcoming the gravitational interaction which is trying to pull it all together. The electromagnetic interaction prevents the equally charged atoms closing in. This is another example of Gravity (by far the weakest force) being overcome by something else.

That's simply how inverse force relations with distance work.

It is not just distance in that example. Gravity is still the weakest force.

The fundamental physical laws are simply laws humans set out which we think accurately describe the way nature works.

From my perspective, the electrostatic inverse square law is a physical law that we now understand and that is not a matter of opinion.

Not doubting that. I don't mean to imply there are any faults with the inverse square law as it applies to the EM force. However it is far from a complete description of the "reality."

It is eminently possible that as we discover a new part of nature, the laws need to change, and this has been a hallmark of science.

I don't think this will happen with the electrostatic inverse square law.

You have no idea if that is the case though. It may be the case that under extremes of temperature and pressure the force interaction between two point charges is different.

Newtonian gravity works fantastically for pretty much everything that people do on a daily basis. However, there comes a time when its approximations

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are slightly off.

While it is unlikely, it is possible this is the case with the EM Force.

How? When we have an accurate model of the universe which is valid and applicable in all domains, what else is there to research?

All avenues that will become available for further research based on that new understanding, no doubt.

Which in turn will indicate that our understanding is incomplete. The circle continues.

I do not think all those "forces" are needed. In my model, EM covers all angles.

Really? How does it explain the force holding quarks in the centre of a proton?

What about neutrinos?

I see no reason why we could not eventually clearly understand the whole sheebang.

Because we are part of it.

I don't see this as a hurdle.

But it means we cant see the whole picture.

Why not ? If all stable matter in the universe is made up of only electrons, quarks up and quarks down, what is difficult about seeing the whole picture ?

Well, bosons are not made up of either electrons or quarks.

We can experimentally test and describe only that which _we_ can recreate and experience.

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Sure. All made up of the same basic stable scatterable particles.

This still avoids the issue of gravity.

For example nature doesn't care we are limited to a four dimensional existence – there could easily be another seven dimensions curled up as string theory predicts. We have no way of knowing this, or testing for it at this time.

My own model requires 11 dimensions, but it turns out deceptively simple anyhow. More dimensions simply reduce the complexity of the required math.

OK. How do you test for the existence of the other dimensions?

There is no reason to think that we will ever hit the point where we can see, experience and model all of nature.

I think we will understand it all.

No. What determines that it isn't there is that it is impossible to detect it.

Until the ability to detect improves I assume? Then was it always there or did it appear?

With our technology, if we have not yet detected it locally. it simply isn't there, from my viewpoint.

Every day technology improves and detects new things. We are not at the pinnacle of technological development.

What other stable scatterable particles can there be in stable matter ?

We have no way of being completely sure the standard model describes every particle. It is a remote possibility that bosons are made up of something

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else or that quarks are not the fundamental particle.

We are only just reaching the point at which we can verify the existence of quarks, let alone break them down into something else.

With our technology we have not detected any other reason for the cosmological red shift _other_ than the recession and associated Doppler effect. Yet you imply there could still be another reason.

Yes.

While I agree that there probably is no Aether, that is a bold statement to make.

Well, then, trust your own judgment. Strike it off if you are convinced that it can't exist. That's what I did.

A phrase which would spell the death knell of science if it was ever widely adopted.

I think the opposite. It would start fundamental research rolling again.

What would there be to research? Your statements, if true, imply there are no new particles and no new interactions to discover. What remains?

Not if the so-called fundamental physical laws that GR rely on break down close to $t=0$. They can't be universal if they break down at any level.

Another trip down semantics lane.

The basic assumption of GR is that the fundamental physical laws are applied equally everywhere.

Good. Then why does the fundamental physical law that GR says applies everywhere break down close to $t=0$?

Because we know the GR is a classical theory and doesn't describe the

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interactions between particles.

Gravity is an interaction between two particles with mass. In until approximately $t=1 \times 10^{-35}$ seconds the universe consisted of just "energy." At this point there is no gravitational interaction, GR ceases to apply.

I have never read anything which ascribes GR the status as "end theory." If it was, it would describe gravitational interaction on the quantum level. It doesn't.

GR has, as its basic assumption, the assumption that the physical laws apply everywhere. This is true. GR is an approximation of a "more fundamental" theory of gravity.

As an example, children often think the Sun goes round the Earth until they are taught otherwise.

But once they are told what the situation really is, they think otherwise.

Not usually the case. It normally takes considerable explanation and demonstration. You can not simply go to them and say "despite you watching the sun go round the Earth, it is actually the other way round" and they go "Oh yeah, that makes sense."

It took humanity years to accept this, but now it is common sense.

<snip due to time constraints>

The fact that any change in direction of a particle requires an expenditure of energy. If the energy is not provided from outside, then it must be drawn from the internal complement of the particle's energy.

I take it you disagree with some of the principles of GR then?

I set the agenda on this one.
No delays allowed. And
already too
late for any attempts at
recuperation.

Ok. Your agenda will not get valid work
accepted faster than any other.

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In my view, it does ensure optimal velocity, given the circumstances.

What circumstances?

The circumstances that I have no degree, thus no credibility, coupled with the fact that reviewers will accept no paper not directly incremental on established paradigms.

That last statement is far from the truth.

Are you talking about H_0 ? Lambda?
Cosmological expansion? Recession?

I am talking about the main subject of this thread. The notion that the BB concept is grounded in the belief that the Hubble red shift is strictly due to Doppler shift.

The "subject" of this thread is "Quantum Mechanics: established fact?"

Yes, the concept of a $t=0$ event, from which what we know of as the universe expanded is based on the Doppler interpretation of the red shift evinced by all large scale structures.

Exactly.

However, "Big Bang" theory has additional support (CMBR for example) which is in keeping with its predictions.

Actually I never saw a clear link.

That does not imply there isn't one. The search for, and subsequent discovery of, the CMBR supports the $t=0$ event theory.

But since I do not think the cosmological red shift is entirely due to Doppler shift, the point is moot to me.

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Well, it may be. But from the point of view of developing a valid theory of everything it is not.

To send a heavy wheel deep in space, far from any large body, set it in rotation and observe if whether or not it will gradually slow down.

It seems to me that theory says that it will rotate forever. My model says it will gradually slow down and in time, completely stop rotating.

(I might be missing something here but...) Why will it rotate for ever? What suggests it will?

I think it will not rotate for ever. But the community apparently does.

Really? Who and why? Are you suggesting the "community" support a perpetual motion device?

Simple CM work law $W=Fr \cos(\theta)$

been discussed extensively here in more than one thread.

Not a thread I have read. Discussion on USENET does not equate to support by the scientific community.

(There is no single organism as the scientific community. In general, get three scientists together and you will have five different ideas on how things happen.)

Ever since Newton, a rotating body is assumed not to require any work being done.

Well, this also requires no friction or interaction by other forces. I would be interested where in the universe you can find such a place.

As with the
Aether, the

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model
(verified
from
parallax,
spectral
analysis etc)
implies
there is no
need to find
another
reason.
They
may be one,
but the
model
doesn't
require it.

Then the model is flawed.

All models are flawed in one respect or
another.

By your
own
assertion,
this means
there is no
other
reason.

???

You stated that if the model didn't require
something (Aether in the
example) then it didn't exist.

No, I said that since it can't be detected, then I conclude that
it does
not exist.

We have not detected anything causing the photons from distant objects to
lose energy, other than the experimentally verified Doppler effect.

That's why I proposed the wheel test. To clear out this no-work done
issue on change in trajectories.

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The wheel would not be an analogue to the path of a photon.

On the contrary. The more important it is, the more it needs to be reviewed.

I feel otherwise. I feel that enough time has been wasted.

A review would speed things up though.

What formal publication allows is the formal community discussing the issue. Not required either for spreading the ideas.

True. Ideas can spread in many forms. For an idea to gain scientific acceptance, though, it is slightly different.

Not my problem any more. I did what I had to do. The rest is not my baby.

If people can not cite the "idea" then it will be phased out of the consciousness eventually.

I don't think so.

Time will tell. There are millions of un-cited theories around. I bet less than 1% of the population can think of more than a few.

No doubt, but irrelevant in my view.

If and when it gets used as a citation, the orthodox community will have been defeated in maintaining the status quo. And real research will then resume. If I am

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still around, I will deeply
enjoy.

I have never seen the "orthodox community"
in science. When I was still
interested and able to go to conferences there
was constant debate and
very little which could be described as
orthodox.

And zero progress. That's orthodoxy in full regalia.

Nonsense. There has been more progress in science in the last twenty
years than in the four hundred before it.

Ok. How is integrating QM with GR going ? Hasn't this been on the cooker
for 70 odd years ?

Yes. Isn't science great. In less than 100 years we have gone from thinking
there is an Aether to being able to break down protons into their
components. Amazing isn't it?

The fact that science has not yet solved the question you want answering
is not a sign of the lack of progress.

What progress has been made ?

The very existence of QM is progress in itself.

When has internal structure of nucleons been integrated in the
SR definition of mass ?

So you ignore all the other progress in science because your pet questions
have not been resolved?

I know of no one active in the physical
sciences who is trying to
maintain the status quo. (Drug reps are a
different matter...)
Scientific research is about finding out new
things. All the students
studying for their PhDs for instance need to
add to the sum total of

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human knowledge. This is not done by
re-inforcing the status quo.

That's exactly what I have been seeing happening for the past
decades.

Again, I suspect you are either looking in the wrong place or simply
offended that the "scientific community" dont agree with your particular
world view.

Not at all. I observed that for decades before I even settled on a
particular world view.

Well, without being unduly rude, I suspect you had already settled on that
world view and simply saw the information to support it.

Very little research that I have either seen or taken part in has reinforced
the status quo. People seek fame and scientists are the same.

No, but I can scatter against
the particles that are
interacting. The
interaction can then be
studied and ascertained. It
has been long ago.

Yet this does not prove the existence of
gravity. There are no known
particles of gravity – some are theorised but
none have been found.

Your absolute requirement for scatterability
means gravity no longer
exists.

Absolutely not.

So how to explain a force which has no mediating particles and cant be
"scattered" against?

A simple force interaction between charged particles. Coulomb, Maxwell.

Gravity works on forces without a charge.

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Interesting,
yet you
miss the
fact we
verify the
particle
interactions
and scale
that up to
produce the
cosmological
data used
day in and
day out.

I don't think the "scaling"
has been done correctly. No
re-scaling has
been done, for example,
since we have found out the
internal structure
of nucleons. The Pioneer
so-called "anomalous"
acceleration is
directly tied to that faulty
scaling, in my view.

Ok, this isnt quite true though. The internal
structure of nucleons has
been determined for quite some time (and
predicted for longer).

Not that long ago. Quarks up and down were detected only in
the second
half of the 1960's.

A lot has happened in the last forty years though. Most of current
cosmology has been determined in that intervening period.

I don't see much change from what Gamow wrote in the 1940'.

Look harder.

What about the internal structures changes
the way things scale up?

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SR was developed 100 years ago, defining rest mass based on the notion that nucleon rest mass was invariant. Never was adapted to take into account that nucleon inertia would vary with proximity of large quantities of matter due to coulomb interaction.

How does this answer the "pioneer anomaly" better than any other reason?

Simply because the effective mass of the Pioneer crafts can only be slightly larger in deep space than measurable at Earth's surface.

How do you verify gravity exists? On the particle level it is very different to what happens on the big scales.

This is the general view. My model reveals a different picture. Discussed in some other thread lately, mainly with Freddifizzx and also Ken.

Ok. Do you model it as the same as on the large scale then?

In my model, there is only one scale. That of the only physically existing scatterable particles.

There is no physically existing scatterable particle of gravity.

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I don't think there is, nor need for one.

At the particle scale, gravitational forces are almost non-existent.

Your view. Not mine.

Really? What do you see as the gravitational interaction between (say) quarks then?

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T Wake

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