

Re: Inside/Outside Earth Processes

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From: don findlay (don_at_tower.net.au)

Date: 07/10/04

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geraldkelleher@hotmail.com (Oriel36) wrote in message
news:<273f8e06.0407090936.3f9dff4@posting.google.com>...

> don@tower.net.au (don findlay) wrote in message

news:<5f164087.0407080616.150a22dc@posting.google.com>...

>> dharder@bnl-dot-gov.no-spam.invalid (DAH) wrote in message news:<40ec163a\$1_1@127.0.0.1>...

>>> Yes Don,

>>> Physics 101 means basic physics. I sometimes like to accentuate my

>>> righteous contempt for the dogmatic trappings by returning to basics,

>>> which is where the truth resides; the trappings often obfuscate the

>>> truth. Do not misinterpret it as condescension.

>>

>> In plate tectonics then this is back to the big "IF": if the Earth

>> remains a constant size (etc etc). People seem reluctant to address

>> this one, even as a hypothetical. Oriel is deploring the trouble he

>> has with getting an astronomical point across, and now you are saying

>> the same about regular physics.. Which basically means 'dogma' is

>> across the board. (Beats me why dogma is so very discussable amongst

>> the informed; it would seem to me there's nothing in it to discuss.)

>>

>>

>> The purveyors of

>>> modern geophysical theory, and I don?t necessarily mean contributors

>>> to this forum, cannot adequately answer your query regarding plate

>>> tectonics, because they seemingly do not comprehend basic issues of

>>> angular momentum. Consider inside/outside Earth processes and how

>>> the angular momentum of the Earth is conserved.

>>>

>>> Seismic tomography has provided a fascinating look at the interior of

>>> the Earth. Imagine how the interior of the Earth has evolved over

>>> time. Of particular interest is the growth of the anticontinents at

>>> the core-mantle boundary. That growth has attempted to change the

>>> moment of inertia of the Earth by redistributing mass. If you

>>> suspect that the external reconfiguration of the plates and orogeny

>>> is driven by the internal reconfiguration of the Earth structure,

>>> then I think you are right, but I would point out once again that the

>>> underlying issue is ?conservation of angular momentum?.

>>

>> Never heard of anti-continents, thanks for that, D. (Though I see

> > *briefly an article describing them as "ghost artifacts of procedure").*
> > *There are plenty of continental (and mantle) palimpsests in and*
> > *around the Pacific, and I have wondered what they mean in terms of*
> > *three-dimensional growth, for sectors that may have been 'left behind'*
> > *during the outwards growth of the mantle. Doubtless there's a*
> > *connection. The ones we see are the ones that continued to 'float'*
> > *but I can think of ways that mantle growth could get them to stay down*
> > *there.*

> > *The Wharton Basin (between India and Australia is a dead ringer of a*
> > *'foundation' for India; what if it stayed down where it used to be, as*
> > *the crust grew outwards to where it is at present? (Interesting*
> > *thought [to me], in the light of some of the other 'duplicates' that*
> > *are around.)*

> >

> > *Robert,*

> > > *Hold a brick over your foot. Let go. When you understand why the*
> > > *action of the brick hitting your foot does not change the moment of*
> > > *inertia of the universe, you will have achieved a deeper*
> > > *understanding of physical reality. Recondite matters? I think not*
> > > *Bob. Conservation of momentum is perhaps the simplest concept in*
> > > *physics. Do not fret Bob, Newton didn't understand the essence of*
> > > *physical reality and neither did Einstein, and they were bright*
> > > *fellows. Sometimes one must begin at the beginning to find the*
> > > *correct path to what lies directly in front of the nose. Knowledge*
> > > *and humility are not strangers.*

> >

> > *Yes, indeed. Back to to the wrong turning.. 50 years...*

> > >

> > > *Oriel36,*

> > > *yes, there is much to be said for 'common sense?'. Go beyond the*
> > > *?LAWS? and ask why? Perhaps it is as you say that Newton didn't*
> > > *claim that mass was constant, but can you direct me to the place in*
> > > *the Principia where he proposes that mass is variable?*

> >

> > *What an interesting point! (Just a thought..) If the fundamentals*
> > *of mass are so tied up with electrical charge in the*
> > *pea-in-the-football-park analogy, ..If we change that 'dimensional*
> > *space' and 'compress' things (electrical force), ... does mass (and I*
> > *know it's counterintuitive, but I'm thinking *equilibrium*) DECREASE?*

>

> *As you are geologist, it may be better to consider mass in terms of*
> *volume and density, even if you phrase it as Earth expansion, you have a*
> *good case for considering any variations in the volume/density ratio*
> *of material churned up by the Earth's interior process affecting the*
> *evolution of surface features.*

>

> *Anything with volume can be expressed geometrically therefore it is*
> *really unhelpful to discuss these matters with physicists who*
> *attribute geometric properties to space, simply stated, space has no*
> *geometric properties despite a century's worth of 'warped space'.*

>

>
>
>
>
> > *So that taking the pressure 'off' again (so to speak) allows mass to
> > settle back to its normal 'equilibrium' 'static' value?*
>
> *Geologically, mass remains constant but as this is an umbrella term for
> the density/volume ratio of different rocks or different strata in the
> Earth's interior by all accounts it should affect periodic subsidence
> or expansion in the Earth's crust. Again, I don't pretend to be a
> geologist but astronomical equivalents do exist in terms of the
> variations in density/volume ratio's (mass) in variable stars and
> these I am quite comfortable with.*
>
> http://zebu.uoregon.edu/~js/glossary/cepheid_variable.html
>
> *I suspect that you will be subjected to the usual definitional
> equivocation of mass and associated terms, this being a product of
> early 20th century thinking or rather lapse in thinking. We inherit the
> worst part of that tradition and what would otherwise be a normal
> discussion on tangible differences between density /volume ratios of
> rocks or the mantle becomes lost in the tendency of the gravitational
> guys to babble on about what you do and do not understand about
> physics. Let them Don, they operate out of a celestial sphere for
> cosmological modelling and a stationary Earth for the evolution of
> physical features.*

Oriel,

My apologies for not answering your last one. I put it aside because it raised so many points, and then it got buried in the maelstrom of more immediate responses from Carsten (Hi Carsten!). I forget, but I remember I meant to say something along the lines of to hang in there, and that if what you are encountering in the astronomical side is anything like what I am on the geological side, then I for one understand your position exactly.

That's a very interesting bit about mass = density and volume ('Convection'). If mass can be expressed in terms of density and volume....(I was dead good at that in school – cross-multiplication – for all that BGeorge says) I wonder what else it can be expressed in terms of ... 'electrical pressure' and strange fundametal particles?

I got lost on the first day of electricity. Electricity? What's that? And +ve and -ve too? (whatever that was supposed to mean) Wahoowww! What is *THAT* all about ?? I still don't see any *real* answers, and so long as the likes of Stuart are bent on talking in the comfortable terms of wet legs, and refusing to dry up/out, I don't see there being any in the short term either.

(I added a longer bit, but re-reading it, I've deleted it – to the relief of many no doubt; it was along the lines of mediocrity;

sci.geo.geology: Re: Inside/Outside Earth Processes

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