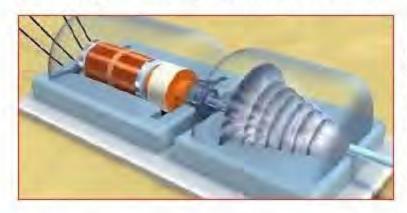
Excerpt from pp. 21-22 in http://chakalov.net/Newton.pdf

We can literally save our planet.

My project is presented in Proposal.rar. The alternative project called 'nuclear fusion' cannot operate "like a diesel engine" (Mike Donaldson) to produce net energy gain, firstly because it lacks the crucial quantum tunneling. Forget it.



No, you can't replace the forceless quantum "apples" (quantum tunneling) with enormous pressure and immense temperature in classical "oranges". No, you can't reproduce the stellar nucleosynthesis. ITER is €22 B Titanic. Read explanation.pdf and ITER.pdf.

Quantum gravity creates the confining force in Sun's plasma. It is completely different from the attractive force between planets. No, you can't fool Nature.

We need quantum gravity $\frac{2}{}$ to understand both the confining force in Sun's plasma and the formation and evolution of galaxies. The majority of mass in galaxies is made up of "dark matter" (p. 8): "galaxies could not have formed as they have, or rotate as they are seen to, unless they contain far more mass than can be directly observed" (Wikipedia). This is why debunking the alleged 'nuclear fusion' on Earth (p. 21) is crucially important. We need to unravel the quantum-gravitational fifth force $\frac{2}{}$. Do not play poker with taxpayers' money.

If the Heraclitean Time in the quantum world is RS-deflated relative to Alice (Fig. F), she will consider it terribly "small" due to Heisenberg's $\Delta t \approx \hbar/\Delta E$, yet in the quantum world Δt is flexible and "large" enough to facilitate the quantum "apples" (p. 21) with the forceless quantum tunneling. Forget ITER.

A star is drawing on some vast reservoir of energy by means unknown to us. Sir Arthur Eddington, *The Internal Constitution of the Stars*, 1920, p. 298.

Something unknown is doing we don't know what — that is what our theory amounts to.

Sir Arthur Eddington, The Nature of the Physical World, 1926, p. 291.

Excerpts from Can We Replicate Stellar Nucleosynthesis?

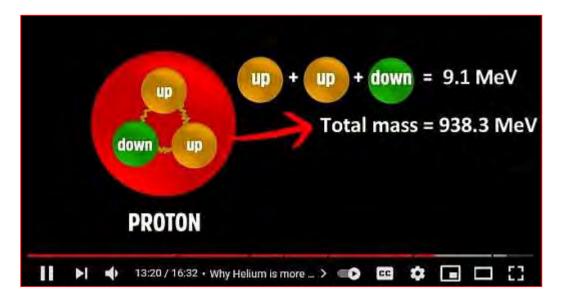
D. Chakalov chakalov.net

People believe they know how the Sun fuses 620 million metric tons of hydrogen each second (Wikipedia), yet still cannot reproduce it. Can you reproduce apples with "very hot" oranges?

The first off puzzle in Sun's engine is quantum tunneling in the presence of gravity.

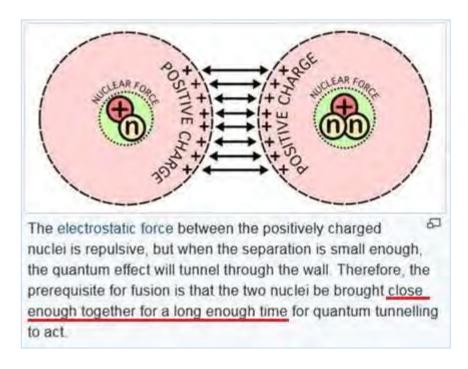


How the Sun works: Fusion and Quantum Tunneling



Why does the Sun shine? What is building up protons (Slide 10)?

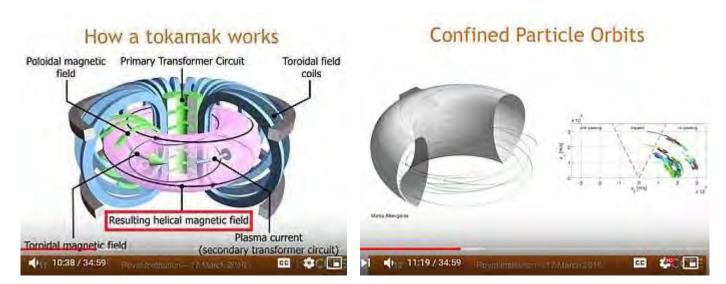
Recall that quantum tunneling (Wikipedia) is <u>not</u> caused by brutal force. The quantum tunneling is *absolutely* essential for Sun's engine, and it <u>cannot</u> be substituted with high temperature and pressure. You can only heat up the plasma "to about 100,000,000 K" (Encyclopedia Britannica). So what? Can you reproduce apples with some "very hot" oranges? For if you do <u>not</u> use quantum tunneling and bet *only* on the two conditions "close enough together for a long enough time" (read Wikipedia below), you can only make H-bombs.



As explained in Wikipedia, "temperatures needed to overcome the Coulomb barrier turn out to be **smaller** than expected due to quantum mechanical tunneling"; recall the Gamow factor.

But we need quantum gravity to eventually understand how quantum tunneling works in the presence of gravity, and then model quantum tunneling in plasma under strong gravity and magnetic fields. However, we don't know the origin of gravity and inertia in the first place.

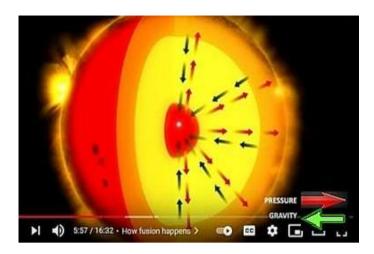
People bluntly ignore the warning by Sir Arthur Eddington (read above) and invest **billions** of euros — all taxpayers' money — for their Barbie, such as ITER in France and Wendelstein 7-X. Let me be a bit more specific. Look at the "resulting helical magnetic field" yielding "confined particle orbits" below, from Ian Chapman. Where is the crucial quantum tunneling (Wikipedia)?



Fusion: How to Put the Sun in a Magnetic Bottle - with Ian Chapman (June 8, 2016)

No, you cannot put the Sun in a "magnetic bottle", like in a pressure cooker.





Again, we do <u>not</u> understand quantum entanglement and tunneling under *very strong* gravity. In the first place, we believe stars are created from clumps of dust in molecular clouds by gravity, but what if gravity has two opposite, tug-of-war manifestations (physicists call them "dark matter" and "dark energy") in dynamic equilibrium? We do not accept "mystery mater".

Sir Arthur Eddington suggested the mechanism of nuclear fusion in stars in 1920 (Wikipedia), and Friedrich Hund discovered the quantum tunneling in 1926. Since the nucleons are quantum objects, "the inclusion of quantum mechanics is therefore necessary for proper calculations" (Wikipedia). The crux of the matter was explained by Werner Heisenberg in 1958: the so-called 'quantum state' is "just in the middle between possibility and reality". Earlier, he famously stressed (*Zeitschrift für Physik* 43 (1927) 172-198, 23 March 1927): "Die Bahn entsteht erst dadurch, daß wir sie beobachten." So, if we look at the macroscopic trajectory of a particle (Slide 7), we imagine that *this* wave-and-particle can "overcome" the Coulomb barrier above, which is called quantum tunneling (Frank Trixler).

Well, the *intact* 'quantum state' (dubbed John) can *effortlessly* show up 'outside the barrier'. Otherwise we can't have stellar nucleosynthesis. Forget those "confined particle orbits" from lan Chapman — the quantum tunneling <u>cannot</u> be substituted with temperature and pressure, like the pressure cooker above. Without quantum tunneling, you can only make H-bombs.

You may not replace quantum apples with "very hot" classical oranges: read p. 12 in facts.pdf.

NB: You need quantum tunneling for *your* nuclear fusion. Even if you manage to "enhance" the so-called confinement time to "around four seconds", it won't work. You may only achieve sporadic and unsustainable bursts of nuclear fusion in ITER's 'pressure cooker': the additional guiding "vector" from quantum tunneling is missing. Can't fool Nature. Details upon request.

7 July 2021, 23:55 GMT

For the record

Today is January 7, 2022. The first contribution to *The Physics of Life* was made by Erwin Schrödinger in 1944, in which he concluded that "we must be prepared to find a new type of physical law." My invitation for contribution was sent to many physicists and mathematicians, over six months ago, and I offered them to prove my 'new type of physical law' false (p. 18). As of today, nobody accepted my invitation for contribution, nor tried to prove my 'new type of physical law' false (*ibid*.). Physicists are scared to even *think* about Time and gravity. Sorry.

Questions and Answers

Q1: Can you explain the details about ITER?

A1: ITER may only look "exciting", like a multi-billion-euro Titanic. I will be glad to explain. But first, you will have to do some work to qualify: see (1)-(3) below.

1. Read carefully Addendum 3 at pp. 28-31 in

http://www.god-does-not-play-dice.net/SE.pdf

and pp. 1-6 in

http://www.god-does-not-play-dice.net/facts.pdf

and

http://www.god-does-not-play-dice.net/T_V_S.jpg

http://www.god-does-not-play-dice.net/kip_slide_5.jpg

2. Write up a brief report and upload it, from your academic institution, to

https://arxiv.org/archive/gr-qc

https://arxiv.org/help/submit

3. Send me the link to your report in arXiv.org.

I will reply within 5 working days and will send you the requested information. It boils down to the conditions to overcome the Coulomb barrier. "Maybe gravity?" (YouTube, 2:12-2:18). Like the "gravity" from your GR textbooks? No, it won't work. To quote from the U.S. DoE:

2 APPLY PRESSURE. Pressure keeps the plasma bottled up and the nuclei colliding with each other. The fusion reactions powering the Sun rely on gravity for this confining force. On Earth, we use powerful magnetic fields to confine the plasma.

How is Sun's gravity (see above) producing confining force that is completely different (Sic!) from the attractive force between planets? How is this brand new confining force coupled to the guiding "vector" from quantum tunneling? Can we "insert" gravity in the quantum word?

Only the **self-acting** mechanism of quantum gravity. It is <u>not</u> like Baron Munchausen. Read the last paragraph at p. **13** in *The Physics of Life*.

Forget **GW** parapsychology. Forget **ITER**'s 'pressure cooker' — it is a **multi-billion-euro** Titanic.

The first off challenge is to understand the *force* of gravity; for example, in Earth tides. The Christoffel symbols cannot rotate the Earth and pull up rocks. What is the energy from gravity? The second task is to explain 'the only mystery in QM': quantum tunneling in the macroscopic trajectory of a particle (Slide 7). Read the last paragraph at p. 26 in *The Physics of Life*. This is how 'the quantum state' (read above) can *effortlessly* show up outside the Coulomb barrier. Otherwise you cannot have sustained nuclear fusion on Earth.

However, we cannot make any progress today, because physics is vehemently contaminated with GW parapsychology. Physicists are scared to even *think* about Time and gravity. Sorry.