

Can a vortex cool down Fukushima?

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A modification of nuclear physics model of Mathis has been proposed. Solution for Fukushima can come outside of mainstream pseudoscience only.

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These remarks arose for stimulation of independent thoughts. As today it is clear that successful management of nuclear disaster in Fukushima by means of mainstream science and technology is hardly possible, the solution, if any, should come from outside of the Standard Model. First task perhaps here is- to get nuclear physics back to track. Looking in the past a century it is clear, that after scattering experiments of Rutherford nuclear physics face same problems as celestial mechanics: 1)why secondaries (electrons) move around primaries (nucleuses), 2)why secondaries do not ram into primaries- as well as some additional problems connected with charges of particles. Looking into first landmark paper of Bohr (*Philos. Mag.* 26, 1 1913) we see Keplerian accentuation: „...In this case the electron will describe stationary elliptical orbits”. First equation in mentioned paper does not contain gravity, „tidal” force or vortex- Bohr bravely operates with electromagnetism alone, by the way „solving” schizophrenic task- how to explain repulsion with attraction. (Origin of this task stems from *Principia*- „attractions are rather impulses”).

On second part of Bohr’s paper (*Philos. Mag.* 26, 476 1913) he deals with example of Newton’s cannonball for the microworld (orbital speed of electron seemingly should be great in order not to fall to nucleus).



Fig.1 Newton’s cannonball example. Credit:
http://tap.iop.org/fields/gravity/403/page_46830.html

Example of slow-moving Moon which do not fall into Earth but is receding instead does not impress Bohr- nor any of nuclear physicists, as it appears. Meaning of initial writings of Bohr seems to be- to explain spectroscopical observations only. Needless to say that „Bohr radius” obtained such a way cannot be true. Not surprisingly, Planck and Einstein resisted Copenhagen interpretation of quantum mechanics. Mainstream continuous in same style- we read for example that „scientists have been able to calculate the radius of a proton (0.88 ± 0.01 femtometers) for some time using the charge of the electron that orbits around it...” (cf. Mathis1). In calculations at least Newtonian M/R^3 field of atomic nucleus should be added. Only doctrine which is far from reality can tell us that atom nucleus radius is some 10 000 times smaller than atom itself. Reduction of that number by factor of 100 (Mathis1) gives us more logic proportion. If it was known, that spectral lines can be split in several components in presence of static magnetic field or electric field (Zeeman and Stark effects), similar action of fields outside of Standard Model cannot be ruled out beforehand. Similarly for the macroworld: fastest-spinning pulsar *PSR J1748-2446ad* hardly spins around its axis 716 times a second, as was concluded from spectroscopical observations.

Approach of Bohr exposes large holes of physical reasoning so bosses of science simply needed „smeared” electron tales (fig.2).

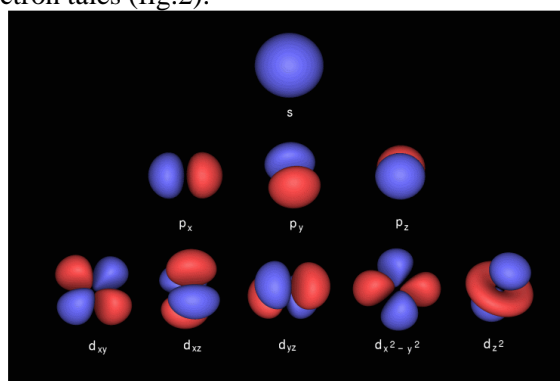
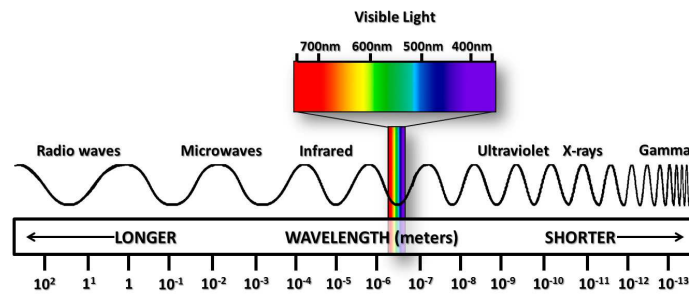


Fig. 2. Quantum orbitals. Credit: <http://chemistry.umeche.maine.edu>

Nowadays, poor interents of physics hoplessly tried to get answers from „science advisors” in internet forums to questions like „does electrons move around nucleus?” or „does electrons spin?” Ed Caruthers explain us simply that „electrons are not little planets. Electrons are quantum mechanical entities”. Problem however lies in fact that proton is thought to be more classical „entity” perhaps even with acidic taste so electron cannot be principally different. No one is explaining sources for movement both in macroworld and microworld.

Next problems arose with interpretation of electromagnetic spectra. I have argued for some time that part of „very low frequency EM waves” actually is non-electromagnetic radiation which occassionally interfere with detectors. Similarly, 10^{-13} m long „gamma rays” on the

other end of spectra (Fig.3) does not sound convincing. They should be simply fast spinning



neutrons.

Fig.3 Electromagnetic spectrum. *Image Credit: NASA*

Since author believes in strong macrocosm/microcosm unity, it was interesting to see microworld model of Mathis. If I understood correctly, in this model protons (red) are fast spinning, neutrons (blue) are spinning slower and electrons (e) are not moving around nucleusses. Thus helium is depicted such way (fig.4):

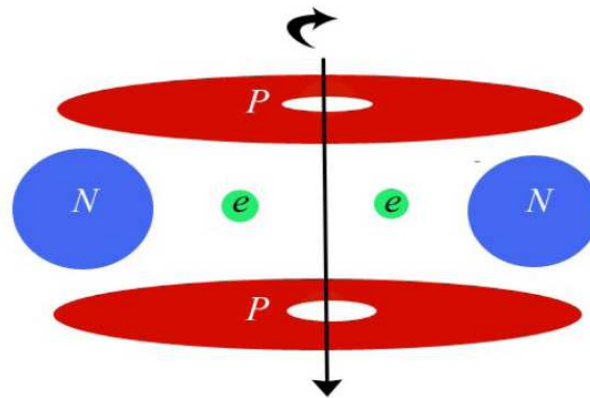


Fig. 4 Helium. Credit: Mathis M. *The nuclear shell model of Wigner.*

Reasoning here, like in celestial mechanics, should be able to show how order comes out of chaos. First, author suggests that (Newtonian) „matter irradiated” M/R^3 field is not necessary connected with „charge”. Similarly I disagree with role of photons in constructions of Mathis. Main acting factor here should be (Nordstrom-Einsteinian) M/R (potential) gravity (Alksnis, 2016, 2016A, cf. Mathis2, cf. Tadesse, 2017) which is considerably stronger than mainstream thoughts. Than- equatorial spinning repulsion from neutron (analogy with radial repulsion from the Sun- $1/R^{1.66}$ rule for certain distances). Next here should be modified Coulomb force $(Q+q)/R^2$. About possibly further forces I am not competent to speak. Thus we see that with oblate fast spinning neutron system helium atom can self-assamble as in fig.5 (cf. Iwanenko, 1932).

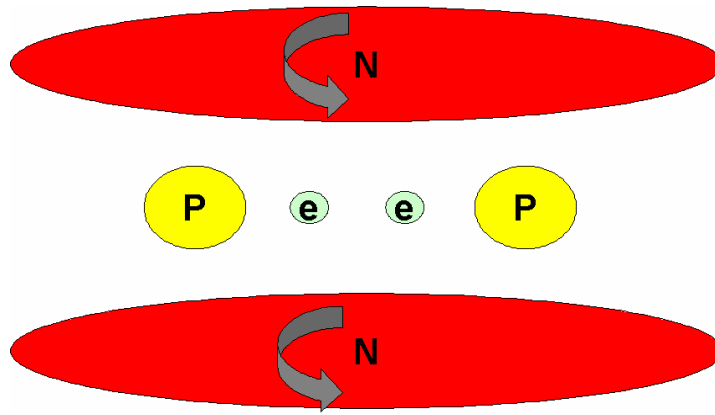


Fig. 5 Helium. Alternative version.

Other allowed configuration for two spinning neutrons is 90° relative inclination- as in fig.6 (just like in star- hot Jupiter example). Comparison of microworld with macroworld prompts that heavier particles should spin faster than lighter ones. So spinning of protons probably is hindered by electrostatic interactions.

Argon40

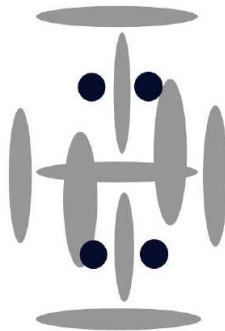


Fig.6 Argon 40. Credit: Mathis M. *How the elements are built.*

Experimentally measured covalent atomic radiusses gives us possibility to look for some balance of forces in atoms (Fig.7).

	Groups						
	1	2	3	4	5	6	7
Period 2	Li	Be	B	C	N	O	F
Period 3	Na	Mg	Al	Si	P	S	Cl
Period 4	K						Br
Period 5	Rb						I

Fig.7 Atomic radiusses. Credit: BBC

It is clear, that fig.7 mainly shows us effects of gravitational compacting of free space in atoms. Comparison of data of first group elements is shown in table 1.

Element	Covalent radius, pm*	Number of nucleons	$\frac{\text{Covalent radius}}{\text{number of nucleons}}$
H	31	1	31
Li	145	7	20.7
Na	180	23	7.8
K	220	40	5.5
Rb	235	85	2.8
Cs	260	133	2.0

Table 1. Comparison of number of nucleons with covalent atomic radius. *empirically measured covalent radii for the elements, as published by J. C. Slater in 1964.

From table 1. it is clear, that covalent atomic radius depends from interplay of M/R (potential) gravity and M/R^3 „tidal” field and perhaps vortical repulsion which goes weaker with increasing number of nucleons. Effect cannot be explained by increased attraction between larger number of protons and electrons because that mean also increased repulsion by the same protons and electrons as well as from increased number of neutrons.

As „spin-torsion” stuff as well as etherodynamics are major fragments of physics outside the Standard Model and one of fathers of „torsion field” theory have put vortices in the foundation of the world (Fig.8)- might be here is a chance of decontamination of Fukushima plant by more advanced technology?

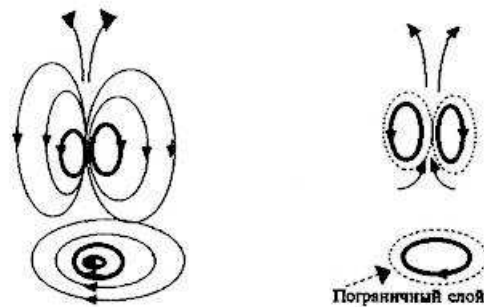


Fig. 8. Proposed structure for vortices of proton and neutron. Dotted line shows border region. From: www.delphis.ru > "Дельфис" №25(1/2001)

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