

COHERENT INDUCTION OF COULOMB CHARGE FOR MAGNETIC FLUX STRINGS BY THE ULTRA FAST AND LIGHT DARK MATTER MEDIUM

J.W.A. Zwart

Abstract

It is assumed that the mediating mass of an atom of charge Z represents the induced generalised proton state for the ultra fast dark matter medium . Consequently, Z strings of magnetic flux using the Sakharov's substitution transformations should explain the improbable physics of Coulomb induction. Used as a model for the electron is the toroidal magnetic geometry as an equivalent for the electrostatic energy as unit charge which is related to the magnetic quantum flux of $\phi = h/2e$. Through the doughnut hole of the torus the dark matter of the fast medium passes consisting of accelerated pseudo vector components then breaking open this conserved torus geometry into a magnetic solenoid, magnetic flux string, of Z times the λ -wavelength of Lamb's shift. Since the quantum wavelength is longer than Bohr's length, under these conditions any strings of magnetic flux can be extended to maximum 21 cm intrinsic to the internal dimensions of the electron. The Hartree potential of the H atom serves as proof, the supposed substitutions are expected to be correct.

Par 1 Introduction

By applying Sakharov's law of induction the mediating mass of m_m for any atom was derived in (*ref 1*) given by a simple expression: $m_m = \sqrt{(m_{at}/4\alpha)}$

With m_{at} the atomic mass divided by the number of nucleons of the atom and α the fine structure constant of the electron with the electron the unit of rest mass. The factor 4 is due to both Fermi spins of the electron and generalized proton. The induced m_{at} and m_m are the dark matter induced parameters.

The mediating mass is the important induction parameter for any atomic species subjected to coherent or synchronized atomic groups in dynamic gravity generation. Not only that but it can be shown, not proven, that the electric charge of Ze of an atom can be converted into a string of magnetic Z -Lamb quanta by the quantum flux $\phi = h/2e$. It is only due to the Z magnetic strings in coherence that gravity in a macro mass can exist long enough for time intervals of the $\sqrt{\lambda}$ -wavelength driving the gravity of the coherent cells of the atomic to dark medium. The $\sqrt{\lambda}$ -wavelengths are not photon wavelengths but equivalent to the magnetic wavelength determined by the event λ of the macro mass.

1.1 Results

For a complete understanding of the Coulomb charge induction the quantum mechanical relations of the H atom are needed. These are Hartree potential, Bohr's radius, magnetic quantum flux ϕ , Lamb parameters, 21 cm of the electron calculated from the electric capacity and self induction. If these parameters are linked as momentary parameters of the induction relation for dark matter then the substitution parameters are $\lambda^2 = R_{sub} R_{lin}$ and $S^2 = R_{sub} R_{lin}^3$ have to be introduced. Here λ is not the event but associated with the charge induction. One has to relate the fundamental λ^2 to the magnetic quantum flux ϕ and S^2 can be associated to the cross section of Bohr's radius while $(S^2/\lambda^2 = Z \lambda_{Lamb})$ as a magnetic Lamb string. The magnetic substitution is $(\lambda^2 = \lambda_M^2 = a \phi)$ and $(S_{bohr}^2 = b^2 R_b^2)$. The constants a and b come from the scaling equalities. Then below λ^2 becomes ϕ as a result.

1.2 Derivation by using the relations: $\lambda^2 = R_{sub} R_{lin}$ and $S^2 = R_{sub} R_{lin}^3$ (ref 1)

A momentary Coulomb contraction of the electron due to the Z charge impulse attraction in the proton determines that the coherent R_{lin} for the Lamb's shift should be proportional to the square root of Lamb by the Z -contraction making the Coulomb contraction inverse proportional to the \sqrt{Z} . If $(R_{lin} = \sqrt{\lambda}/\sqrt{Z})$ inverse proportional then Bohr's cross section cannot be a constant due to the Z charge induction.

So S^2 defined as Bohr's cross section gives: $S(\text{Bohr})^2 = (R_{\text{sub}} = \lambda_e / \sqrt{Z}) \{(R_{\text{lin}} = \sqrt{Z} \sqrt{\lambda_{\text{lamb}}})\}^3$
 And $\{\lambda^2 = R_{\text{sub}} (R_{\text{lin}} = \sqrt{Z} \sqrt{\lambda})\}$. The ratio of $\{(S^2 / \lambda^2) = Z \lambda_{\text{lamb}}\}$ where the substitution parameter λ or λ^2 has to comply to the quantum flux ϕ as an absolute constant then determining that Bohr's radius has to be a constant to for any atom of Z charge, which is a dark matter induced property of the pseudo vector medium.

Note, here no distinction could be made between N_z the number of Z electrons for the contraction induction of N_z times and the only one contraction for λ_e / Z of some magnitude.

1.3 Evaluation with the known parameters

Calculation of the constants a and b. Not yet explained are the Lamb shift and Bohr's radius of the H atom and λ_e is the uncertainty length of the electron. All these properties follow in the next paragraph. The observed values of the parameters are:

$$\lambda_{\text{lamb}} = 5.06016 \cdot 10^{-7} \text{ m}, R_{\text{Bohr}} = 5.292 \cdot 10^{-11} \text{ m}, \lambda_e = 2.4263 \cdot 10^{-12} \text{ m} \quad \phi = 2.06798 \cdot 10^{-15} \text{ Weber}$$

$$\sqrt{\lambda_{\text{lamb}}} = 7.11348 \cdot 10^{-4} \quad \lambda_M^2 = 2.4263 \cdot 10^{-12} \times 7.11348 \cdot 10^{-4} = 1.75205 \cdot 10^{-15} \text{ linked to } \phi$$

$$\lambda_M^2 = a \phi \quad a = 1/1.18032$$

$$(\sqrt{\lambda_{\text{lamb}}})^3 = 3.59953 \cdot 10^{-10} \quad S^2 = 2.4263 \cdot 10^{-12} \times 3.59953 \cdot 10^{-10} = 8.73355 \cdot 10^{-22}$$

$$S_{\text{bohr}}^2 = b^2 R_b^2 \quad S = 2.95526 \cdot 10^{-11} \text{ m} \quad b = 5.292 / 2.95526 (10^{-11}) = 1.79071$$

Both ratios a and b have to be linked:

$$1.18032 \times 1.79071 = 2.118768 \quad 1.79071 / 1.18032 = 1.513446 \quad \{(12)^{1/6} = 1.513085\}$$

$$2.118768 / 2 = 1.059384 / 1.050818 = 1.008151 \quad 1.513446 / 1.5 = 1.008964$$

Deviation:

$1.008964 / 1.008151 = 1.000806 = 1.000268^3$ and $1.513446 / 1.513085 = 1.000238$. Sufficient in agreement to confirm the above statement.

The constants 2, 3/2 or $12^{1/6}$ and 1.050818 = 144/137.036 are well known scaling parameters for dark matter. The factor 2 represents $(\sqrt{2})^2$ or the reciprocal of $1/2 c_{\text{eff}}$ for the dm acceleration.

Par 2 Following up assessments of the hypothesis for binary gravity generation by Lamb magnetic strings

Lamb shift conjugation to the generalised proton with the electron in any atom consisting of Z protons is the base for coherent magnetic formation in the dark matter medium. It can be shown that the lamb shift gap of $5.060157 \cdot 10^{-7} \text{ m}$ ($5.1 \cdot 10^{-7}$) and gap energy of $5.87 \cdot 10^{-6} \text{ eV}$ are constants of the dark matter medium.

To accommodate the posed hypothesis, return to the fundamental quantum constants. The quantum magnetic flux $\phi = h/2e$ is used to explain superconductivity such as pairing electrons and the Hall effect in electric current conductivity. It seems possible to support the hypothesis.

This is shown with the following classic calculation for the magnetic field within the Hydrogen atom and the Lamb shift interaction by the dark matter medium.

| | |
|--|---|
| Quantum flux | $\phi = h/2e = 2.06798 \cdot 10^{-15} \text{ Weber}$ |
| Hartree potential | $W = e^2 / (4\pi \epsilon_0 a_0) = 4.35975 \cdot 10^{-18} \text{ joule}$ |
| Bohr radius | $a_0 = (h/\alpha)(1/2\pi m_e c) = 5.29177 \cdot 10^{-11} \text{ m}$ |
| Flux ϕ | $H S(\text{cross section}) = \phi / \mu_0 = 1.6455 \cdot 10^{-9} \text{ (amp m)}$ |
| Flux energy with Hartree potential and Lamb wave length: | |
| | $(1.6455 \cdot 10^{-9} / \sqrt{\pi})^2 \times 5.05843 \cdot 10^{-7} = 4.35975 \cdot 10^{-25}$ |
| Hartree corrected for μ_0 neglecting the 4π . | Dev: $5.060157 / 5.05843 = 1.000341$ |

The magnetic energy of the H atom for electron conjugation is equal to the Hartree potential.

With $\alpha = 1/137.036$ fine structure constant and $\lambda_e = 2.426583 \cdot 10^{-12} \text{ m}$. The flux ϕ is divided by the magnetic permeability for vacuum giving $(H B = B^2 / \mu_0)$ in Hartree with $H = \mu_0 B$.

So only in case of the gravitational induction ($m M = m_p^2$) the generalised proton condition in the dark matter medium for any Z atom of Z protons can be valid. Consequently if Hartree's potential W having Bohr's radius and the flux ϕ are sole parameters of the dark matter medium then these are independent of any kind of atoms because only the electron mass appears in these quantum relations and the fine structure comes from a dm condition. So far this is a supposition but it means that as well the Lamb shift of $5.1 \cdot 10^{-7}$ m and the shift energy of $5.87 \cdot 10^{-6}$ eV are constants of the dm medium and independent of the atomic species (*ref 1*) confirmation of par 1. Obviously an experimental proposal for gravitational levitation has to give exclusion. (*to be published later on or ref 3*)

In (*ref 3*) the magnetic flux relation $C_H = 4.36 \cdot 10^{-25}$ ($T^2 m = \text{Tesla squared} \times \text{metre}$) is used in the calculations of solar gravity scaling with Lamb shift constant λ as a quantum constant to determine the magnetic string length giving by ($C_H = B^2 \lambda$) with B the magnetic field value as variable. The number of 21cm divided over the $\lambda = 5.110^{-7}$ m is the maximum length of the magnetic flux string while solely in parallel the atomic synchronisation of $5.1 \cdot 10^{-7}$ m gives extreme high magnetic fields used in the state of degenerated coherent dark matter for a macro mass. Both are using similarly a relation as for C_H . Of course all considered as momentary values.

2.1 Continuation of the assessment is the determination that the radius of the magnetic flux a_n which is always greater than Bohr's radius even if the H atom is ionised.

Note $\phi = 2.068 \cdot 10^{-15}$ Wb Then $B=1T$ making $\pi a_n^2 = 2.068 \cdot 10^{-15}$ giving $a_n = 2.57 \cdot 10^{-8}$ m which is greater than of a_0 of Bohr.

In other words it seems impossible to generate this magnetic flux with single atoms. The guessed electron relation derived from the Hartree equality magnetic flux is:

$$(1.6455 \cdot 10^{-9} / \sqrt{\pi})^2 \times 3.599531 \cdot 10^{-10} = 3.1024 \cdot 10^{-28} \text{ Joule}$$

With $(5.060157 \cdot 10^{-7})^{3/2} = 3.599531 \cdot 10^{-10}$ m

Convert $3.6 \cdot 10^{-10}$ into a magnetic cross section and calculate the B:

$$B = 2.068 \cdot 10^{-15} / (\pi \cdot 3.60 \cdot 10^{-10}) = 5.75 \cdot 10^{-6} / \pi = 1.830342 \cdot 10^{-6} \text{ Tesla}$$

Use this B in the Hartree equality:

$$\{(1.830342 \cdot 10^{-6})^2 \times \pi a_n^2 \times 5.060157 \cdot 10^{-7}\} / \mu_0 = 4.35975 \cdot 10^{-25} \text{ J}$$

$$a_n^2 = 1.02809 \cdot 10^{-13} \text{ m}^2 \text{ giving } a_n = 3.207347 \cdot 10^{-7} \text{ m}$$

Determine deviation to $5.060157 \cdot 10^{-7}$: $1.577657 / 1.5 = 1.051783 / 1.050818 = 1.00092$

The value 1.050818 follows from $144 / 137.036$ the electron parameters in exchange to the dm medium. $3/2$ is the ratio of the medium formation, cubic volume over square root cross section. The pseudo cells comply with the cubic defined.

2.2 Confirmation of the relation of paired e-pseudos of 1.34 eV and Lamb shift as absolute constant.

$$N_n = 220.6808 \times 1728 = 3.8134 \cdot 10^5 \quad 0.511 \cdot 10^6 / 1.34 = 3.8134 \cdot 10^5$$

$$1.34 / 5.87 \cdot 10^{-6} = 2.2828 \cdot 10^5 \quad 3.8134 / 2.2828 = 1.633 = 1.1547\sqrt{2}$$

Max energy of e-pseudos expressed in absolute limits of the dark matter medium.

$$\text{Substitution of proton to mediating: } \{1/1836.153 + 1/250.8082 = 1/220.6808\}$$

All parameters of the mediating medium are resonance features in this medium. The parameters are Bohr's radius, Lamb wave length of $5.1 \cdot 10^{-7}$ m and 21 cm molecule line of Hydrogen and the quantum flux ($\phi = h/2e = 2.06798 \cdot 10^{-15}$ Wb). Needed the vacuum constants: $\mu_0 = 4\pi \cdot 10^{-7}$ and $\epsilon_0 = 8.842 \cdot 10^{-12}$ due to photon formation and $h = 6.627 \cdot 10^{-34}$ Joule .

In the previous paragraph Bohr's radius $\{a_0 = 5.292 \cdot 10^{-11} / 2.4263 \cdot 10^{-12}\}$ had a ratio of $137.036/2\pi = 21.81$ related to the Compton fine structure of $1/137.036$. This is considered the internal ratio for the magnetic moment within the electron. So a momentary closed torus represents the absolute contained magnetic energy within the electron:

$$V_{\text{tor}} = 2\pi^2 \lambda_e (\lambda_e / 21.81)^2 = 5.92723 \cdot 10^{-37} \text{ m}^3 \quad \lambda_e = 2.4263 \cdot 10^{-12} \text{ m}$$

Calculate B as a unique value from the uncertainty condition h:

$$B \pi (\lambda_e / 21.81)^2 = h \quad B = 1.7042 \cdot 10^{-8} \text{ T} \quad W_e = V_{\text{tor}} B^2 / \mu_0 = 1.3700 \cdot 10^{-46} \text{ joule}$$

All monetary values.

Theoretical current: $1.602 \cdot 10^{-19} \text{ C} / (2\pi \lambda_e) = 3.153 \text{ Amps}$ (Coulomb times $c = 3 \cdot 10^8 \text{ m/s}$)
 $3.153 \times 21.81 = 68.767 \text{ Amps}$ compared to $2 \times 34.259 = 68.518$ (τ -pseudo's). It is the momentary conversion into current giving the pseudo τ -ratio with respect to the electron. Pseudos of τ are organised in triplets internally of the proton. (Ref 3)

2.3 A magnetic Lamb string induced up to a maximum of 21 cm

Determine the capacity C and self induction L of the electron:

$$W_{st} = e^2 / (2\epsilon_0 r_e) r_e = \lambda_e / 137.036 \quad C = 1 / (2\epsilon_0 r_e) = 3.194 \cdot 10^{24} \text{ Farad}$$

$$\frac{1}{2} C V^2 = W_e = 1.3700 \cdot 10^{-46} \text{ J} \quad V = 9.3 \cdot 10^{-36} \text{ volt}$$

L coefficient in Henry, factor 2 due to $\frac{1}{2} c_{\text{eff}}$:

$$L = \mu_0 4\pi^2 \lambda_e^3 / 137.036^2 = \mu_0 \lambda_e^3 / 21.81^2 = 3.77310^{-44} \text{ Henry}$$

With $I = 1.0 \text{ Amp}$ then $W_B = \frac{1}{2} L I^2 = 2 \times 3.773 \cdot 10^{-44} \times 1 / 1.00563 = 7.5045 \cdot 10^{-44} \text{ J}$

Confirming Bohr's magneton of the electron.

Then $LC = 1.2051 \cdot 10^{-19} \quad 1/\sqrt{LC} = 2.881 \cdot 10^9 = 2\pi f \quad \text{and} \quad f = 4.585 \cdot 10^8 \text{ Hz}$
 With $c: \lambda = 3.0 \cdot 10^8 / 4.585 \cdot 10^8 = 0.654 > 0.211 \text{ m}$

If $L = \mu_0 \lambda_e^3 / 137.036^2 = 9.558 \cdot 10^{-46} \text{ H} \quad LC = 3.053 \cdot 10^{-21}$
 $1/\sqrt{LC} = 1.810 \cdot 10^{10} \quad f = 2.881 \cdot 10^9 \text{ Hz} \quad \lambda = 0.1042 \text{ m}$

Determined by a factor 2 for 0.211 m wave length and a factor 4 in L the induction coefficient. The factor 2 seems to be a consequence of the $\frac{1}{2}c$ effective velocity. So hydrogen molecule wave length 21 cm can also be a feature between the electron and the dark matter medium.

What is shown is that the electron has fast resonance interference with the dark matter medium. Apparently that fast that the Z charge induction of an atom is a possibility.

2.4 The electron inversion of parameters determined by numeric constants

Apply the condition that a sphere volume of radius a_1 determines a torus radius of $a_0 = 4/3\pi a_1$

$$4/3\pi = 4.189 \quad 2\pi^2 = 19.73920$$

1st scaling $\sqrt{137.036} = 11.70623 / (4.189) = 2.79452$

$$137.036 / 2\pi^2 = 6.94234 / (4.189) = (1.65727)^2 = 2.746560$$

$$2.74656 \times 4.189 = 11.50534 \quad \text{or} \quad 132.3728 \quad 137.036 / 132.3728 = 1.035227$$

2nd scaling $2\pi^2 = 19.73920 / 4.189 = 4.712150$

$$(4.71215)^{1/3} = 1.67651 \times 4.189 = 7.022904$$

$$19.73920 \times 7.022904 = 138.6265 \quad 138.6265 / 137.036 = (1.01160)^3 = 1.035223$$

The first scaling confirms the second one meaning that the fine structure constant is conserved by toroidal magnetic flux induction to be stretched in alternation into the formation of electric conjugated charge. (ref 3)

References

Ref 1 : <https://vixra.org/abs/2305.0061> Explanation of Sakharov's induction law for dark matter

Ref 2: <https://vixra.org/abs/2304.0227> Discussions and derivation of the cosmic energy balance for an ultra light and fast pseudo vector medium

Ref 3: Publication near future or website: <https://gravitation-levitation-physics.org/>

Website: <https://universal-creation.org/>

physics due to impact of mediating medium of dark matter on humanity

<https://vixra.org/abs/2302.0135> Provisional proof between Planck's parameters to the giant groups symmetries of Monster, Baby monster and Fischer 24.

..... introductory text on standard particle theory and cosmology, the phenomena explained by them, unsatisfactory features of that explanation, and an alternative approach by the Cosmic Field Paradigm which (supposedly) cures those defects