

# **NATURE'S MEND**

electron g-factor

## **SUPPLEMENTAL**

**PRESENTATION**

**&**

**CALCULATIONS**

**26-AUG-14**

**FOR**

**21-AUG-14**

**BY**

**kevin I olson**

NATURE'S MEND

electron g-factor

PRESENTATION  
&  
CALCULATIONS

21-AUG-14

BY  
kevin I olson

**NATURE'S**

**MEND**

**FOR THE**

**UNIVERSE**

**FROM**

**LOGICAL SIMPLICITY**

**HERETICAL UNCERTAINTY**

**OF**

**INNER SPACE & OUTER SPACE**

[QUANTUM & COSMIC]

BY  
KEVIN OLSON

# NATURE'S MEND

Copyright © 2007 – 2014 Various Letter Forms

Copyright © 2014 Book – First Edition

by

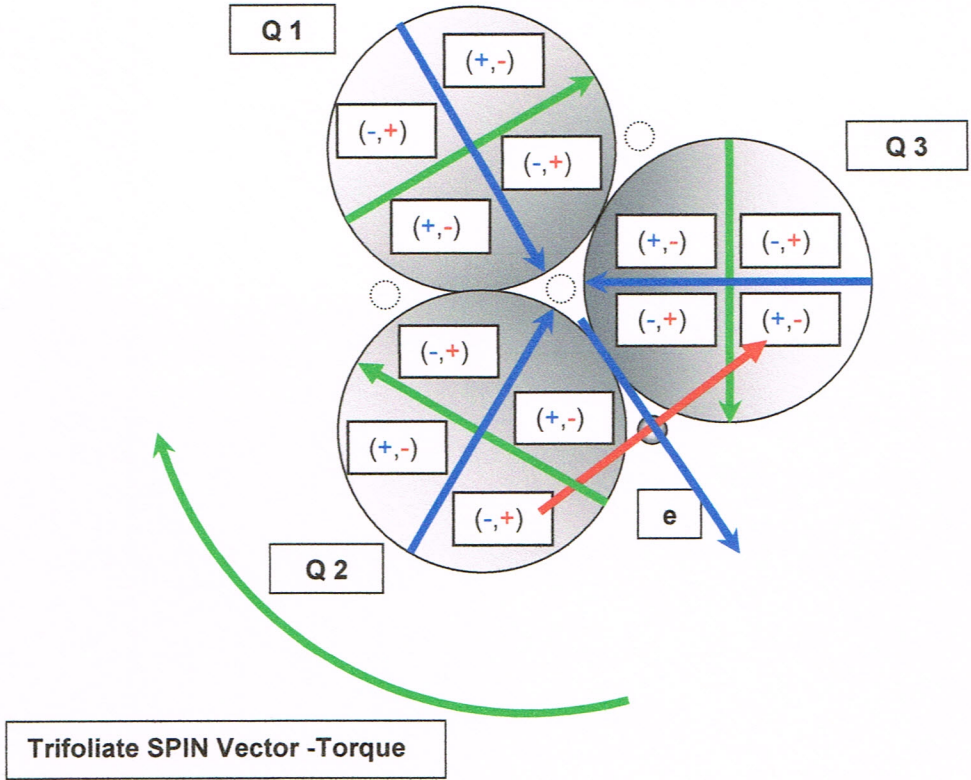
kevin I. olson

Printed in the United States of America

Address all inquiries to:

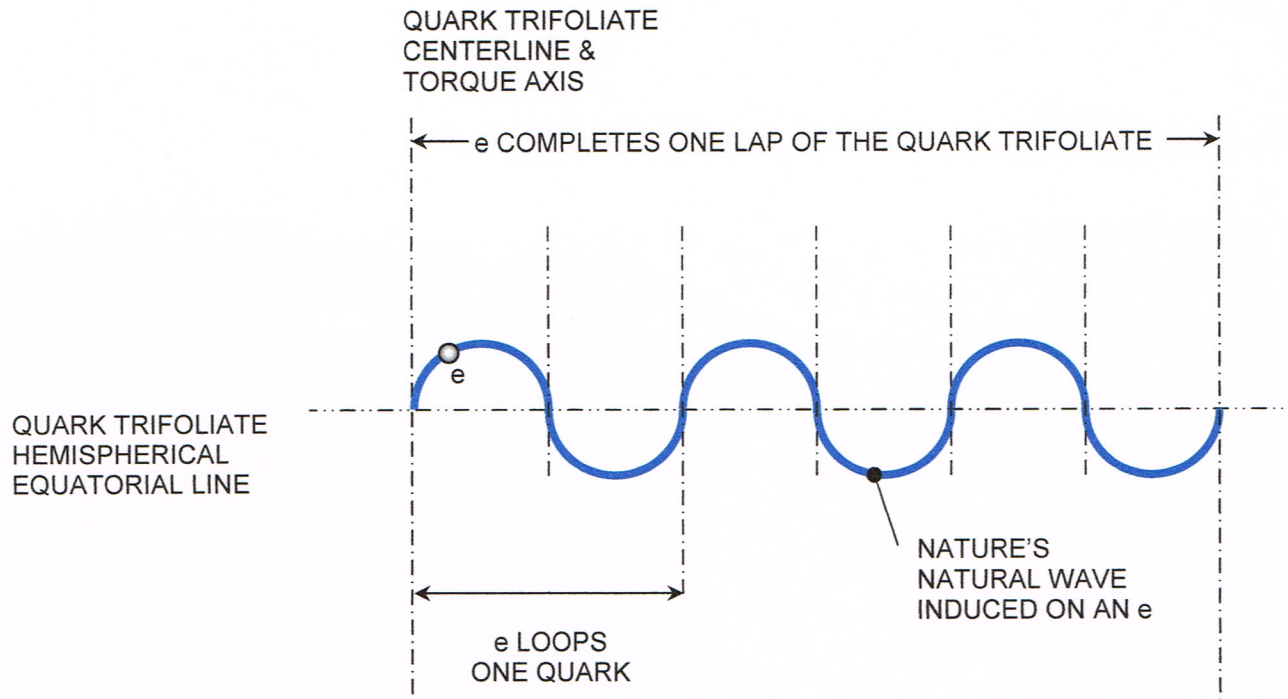
[olsongrizz@gmail.com](mailto:olsongrizz@gmail.com)

Three Quarks  
Make a quark Trifoliate  
a quark-T or qT



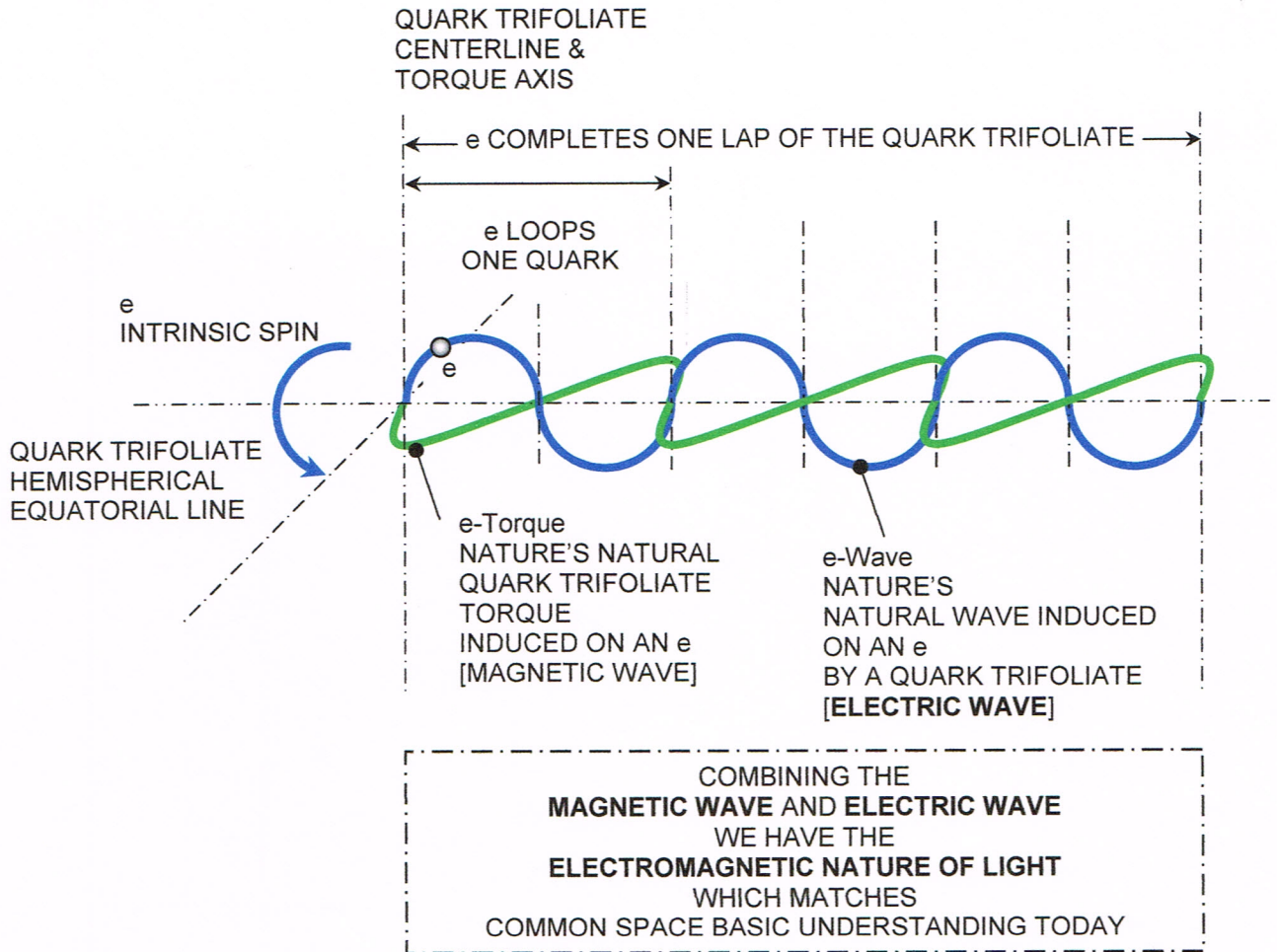
### MONATOMIC HYDROGEN

Figure 8.2



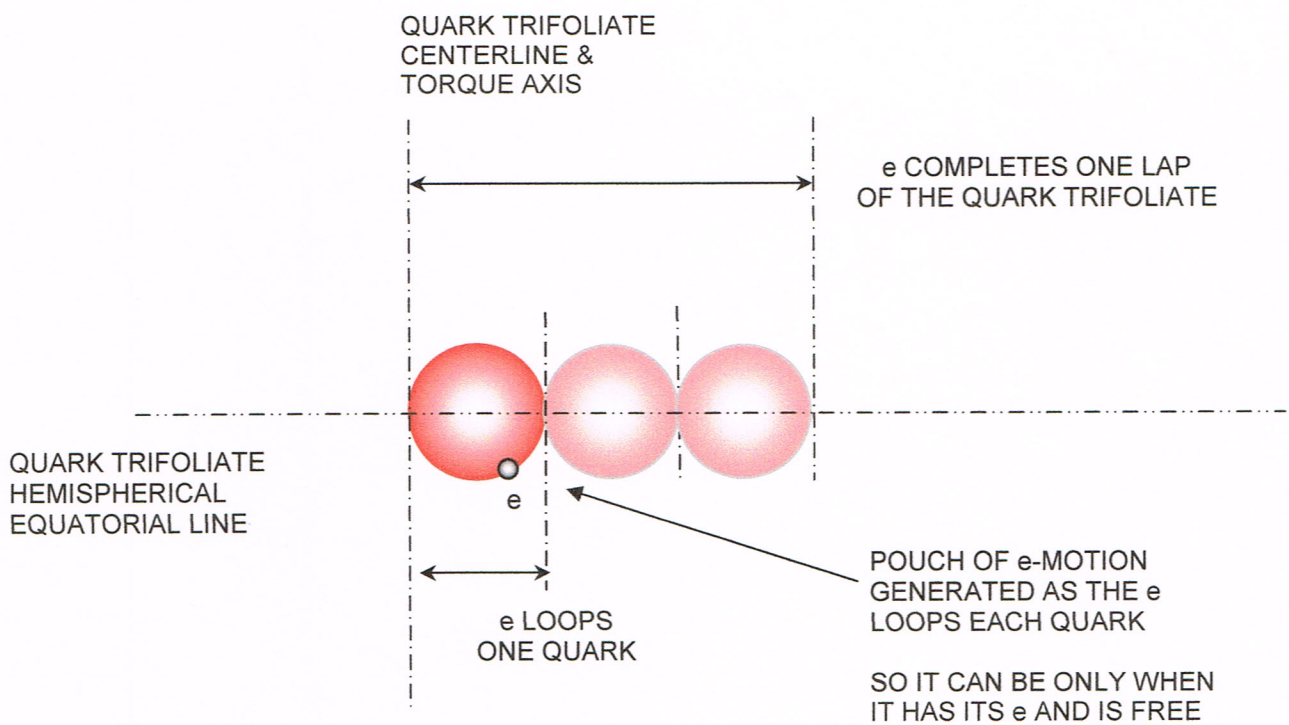
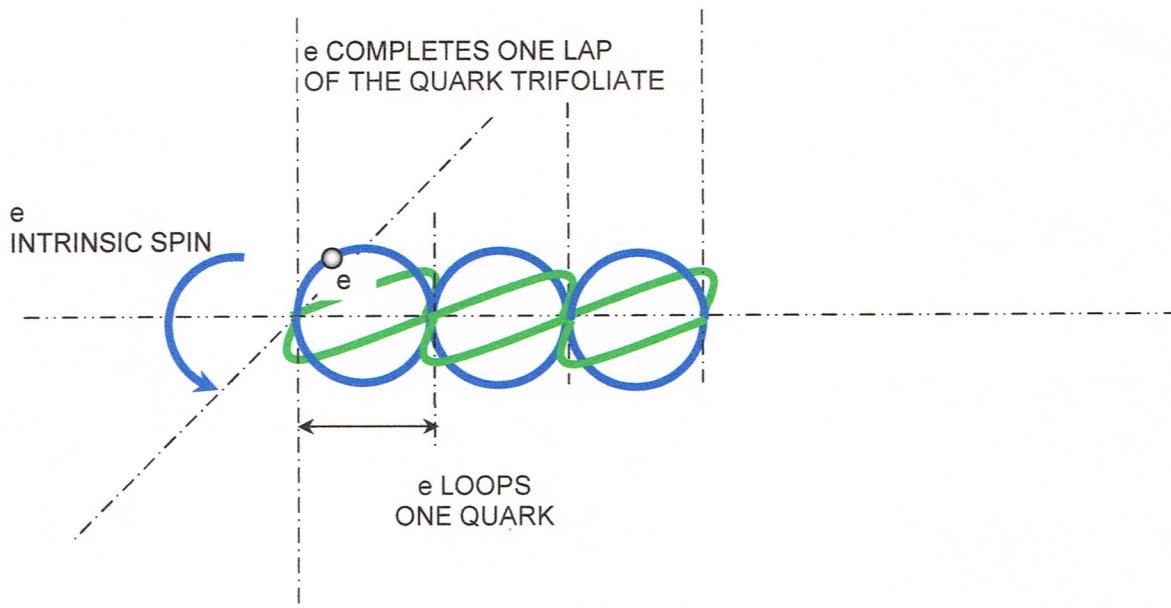
**e-WAVE  
ON – AROUND – THROUGH  
QUARK-TRIFOLIATE**

Figure 8.9



**e-MOTION  
ON – AROUND – THROUGH  
QUARK-TRIFOLIATE**

Figure 8.10

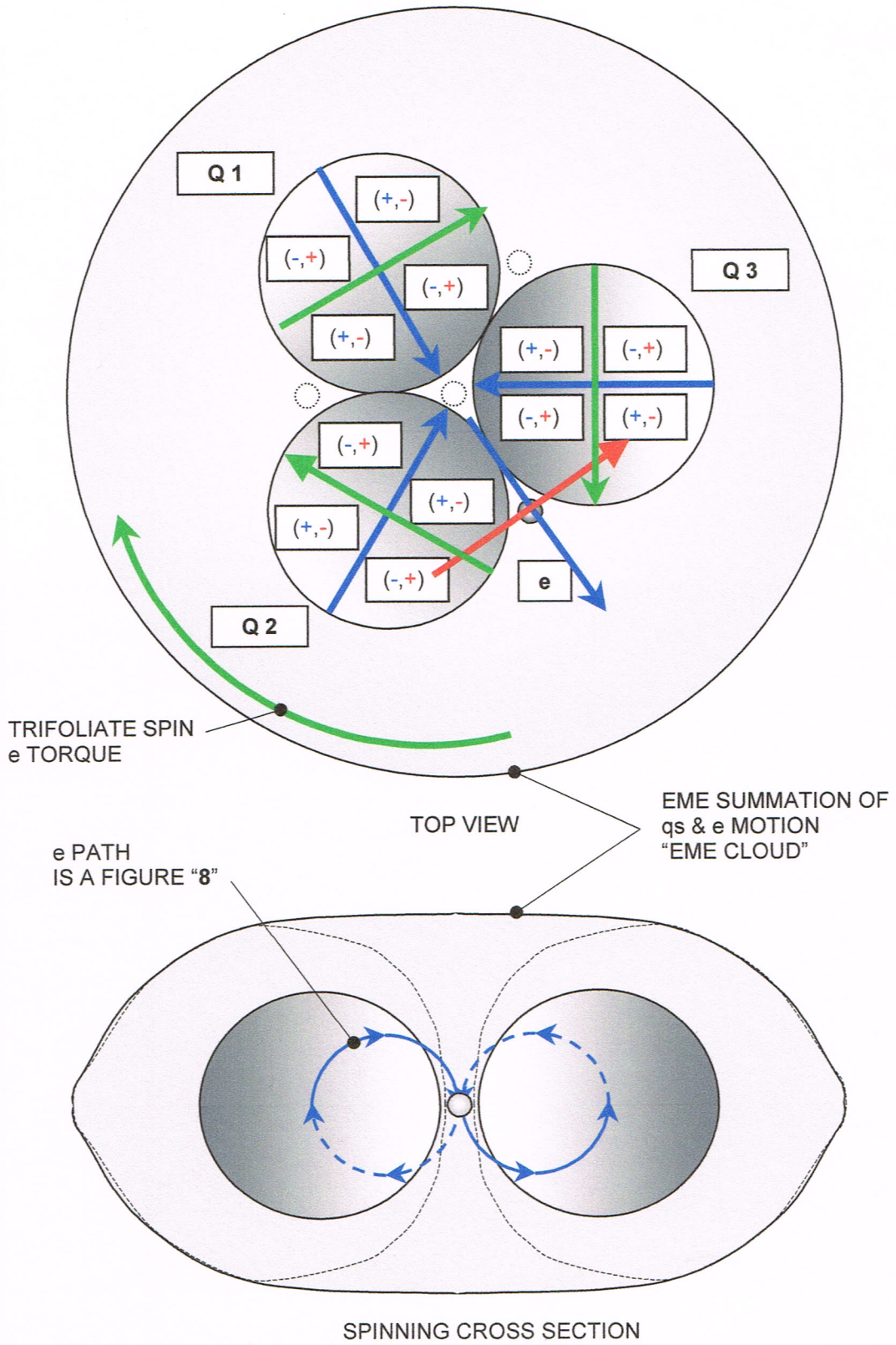


**POUCH OF e-MOTION  
ON – AROUND – THROUGH  
A QUARK-TRIFOLIATE**

Figure 8.11

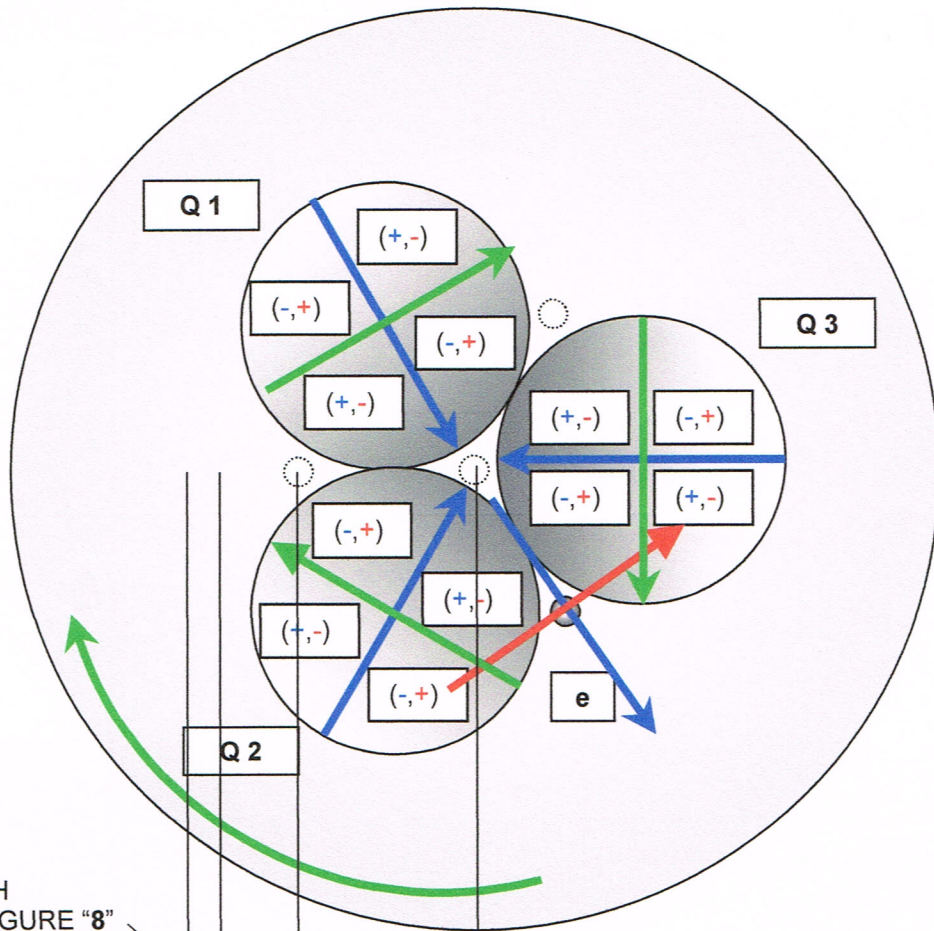
**SPECIAL NOTE:**  
**THIS POTENTIALLY REPRESENTS QUANTUM SUPERSYMMETRY**  
**BETWEEN THE**  
**electron & PHOTON**



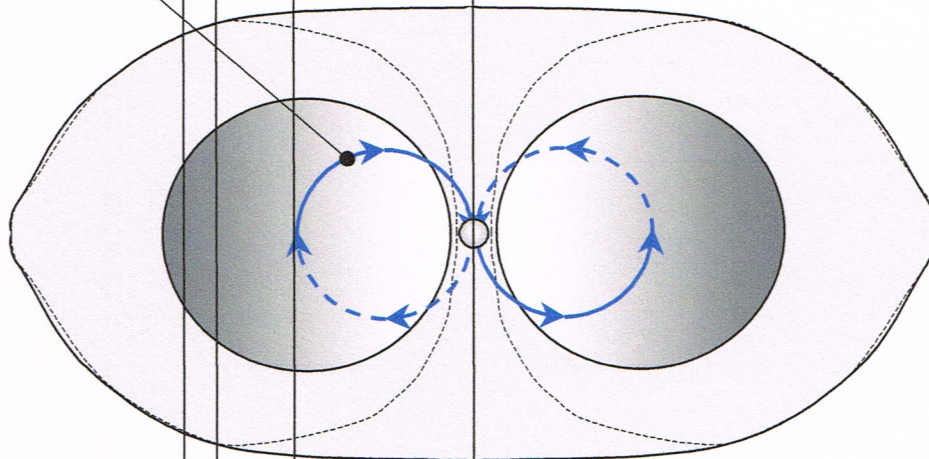


**NATURE'S MEND ELEMENT 1**

Figure 8.14



e PATH IS A FIGURE "8"



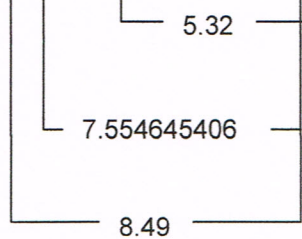
e PATH  
DIAMETER RATIO  
 $Q_{DIA}/e_{DIA}$   
INDUCED BY  
QUARK SPIN

**SPINNING CROSS SECTION  
NATURE'S MEND ELEMENT 1**

Figure 8.14  
GEOMETRICAL MODELING  
MODIFIED 21-Aug-14 for  
electron g-factor calculations

e PATH DIA

MODELED = 5.32  
MAXIMUM = 8.49 (Q/e DIA)  
REQUIRED = 7.554645406



NATURE'S MEND MODELING AND CALCULATIONS OF THE electron g-factor.

PROCESS BULKING PREPARED FOR MR. BRIAN KOBERLEIN: ASTROPHYSICIST, PROFESSOR,  
AUTHOR: FROM ROCHESTER INSTITUTE OF TECHNOLOGY

Dear Mr. Koberlein:

Thank you for your question! I presume you're talking about the issue in classical mechanics.

The following calculations may be simpler than what you are looking for: NATURE'S MEND just seems to be that way. As I stated in my outreach for support "It still needs bulking to build upon the foundation that has been laid".

Again thanks for giving me the opportunity to do some bulking.

In NATURE'S MEND the Quark and electron naturally spin. They also have physical size and are not point particles. The densities of the Quark and electron are also considered to be equal.

If we look back at the figures presented before these calculations the electron actually has three spin elements. The first is the e-wave motion "On-Around-Through the Quark Trifoliate" driven by the spin of the Quarks. Second is the e-torque induced by the spin of the Quark Trifoliate (Note this is perpendicular to the e-wave). This may also address the Proton Spin Crisis. The third is the intrinsic spin of the electron itself.

Thus a NATURE'S MEND g-factor "MODELED" calculation would be as follows:

Quark driven e-wave g-factor value	=1.0000000000
Quark trifoliate induced e-torque g-factor value	=1.0000000000
e-mass intrinsic spin contribution $(e_{DIA}/e_{PATH\ DIA})^3$ to g-factor [MODELED]	= <u>0.006641484</u>

**NATURE'S MEND MODELED & CALCULATED g-factor = 2.006641484**

A NATURE'S MEND g-factor "MAXIMUM – MODELED" calculation would be as follows:

Quark driven e-wave g-factor value	=1.0000000000
Quark trifoliate induced e-torque g-factor value	=1.0000000000
e-mass intrinsic spin contribution $(e_{DIA}/e_{PATH\ DIA})^3$ to g-factor [MAXIMUM]	= <u>0.001577686</u>

**NATURE'S MEND MODELED & CALCULATED MAXIMUM g-factor = 2.001577686**

A NATURE'S MEND g-factor "REQUIRED – MODELED" calculation would be as follows:


Quark driven e-wave g-factor value	=1.0000000000
Quark trifoliate induced e-torque g-factor value	=1.0000000000
e-mass intrinsic spin contribution $(e_{DIA}/e_{PATH\ DIA})^3$ to g-factor [REQUIRED]	= <u>0.002319304</u>

**NATURE'S MEND MODELED & CALCULATED REQUIRED g-factor = 2.002319304**

**WHAT I FIND VERY INTERESTING HERE IS THAT THE EXPERIMENTALLY MEASURED VALUE FALLS WITHIN THE RANGE OF NATURE'S MEND MODELED VALUE AND MAXIMUM MODELED VALUE.**

I hope this provides you with some better insight and understanding that I'm not trying to pass off my work as "technobabble" without "science". I have tried to apply my engineering background, geometry, and math to challenge and vet NATURE'S MEND against current theory. It looks to me like it deserves consideration.

Respectfully,



kevin l olson

# **NATURE'S MEND**

electron g-factor

## **SUPPLEMENTAL**

**PRESENTATION**

**&**

**CALCULATIONS**

**26-AUG-14**

**FOR**

**21-AUG-14**

**BY**

**kevin I olson**

# NATURE'S MEND

FOR THE

# UNIVERSE

FROM

LOGICAL SIMPLICITY

HERETICAL UNCERTAINTY

OF

# INNER SPACE & OUTER SPACE

[COSMIC & QUANTUM]

BY  
kevin I olson

# **NATURE'S MEND**

**Copyright © 2007 – 2014 Various Letter Forms**

**Copyright © 2014 Book – First Edition**

**by**

**kevin I. olson**

**Printed in the United States of America**

**Address all inquiries to:**

**[olsongrizz@gmail.com](mailto:olsongrizz@gmail.com)**

**NATURE'S MEND DERIVATION OF RELATIVE SIZE AND MASS OF QUARK AND ELECTRON**

**SEE FIGURE 6.8 FOR GRAPHICAL MODEL.**

**BASIC FOUNDATION FOR MODELING AND CALCULATION:**

1. STANDARD MODEL PARTICLES ARE NOT POINT PARTICLES.
  - a. THIS ALLOWS THE PARTICLES TO HAVE PHYSICAL SIZE.
  - b. THIS ALSO ALLOWS THE PARTICLES TO SPIN IN THE REALLY REAL WORLD.
2. THE  $e_{\text{BALL}}$  IS FORMED IN THE CORE AS THE THREE QUARK BALLS FUSE.
3. THE DENSITY OF THE  $Q_{\text{BALL}}$  AND  $e_{\text{BALL}}$  are equal

"Q" – THE QUARK BALL

THREE  $Q_{\text{BALLS}}$  JOIN TO FORM THE NUCLEOLUS OF A HYDROGEN ATOM – A PROTON.

The maximum  $e_{\text{BALL}}$  size can be determined with simple trigonometry with the following equation:

$$e_{\text{BALL}} \text{ Max Radius} = 1/2 Q_{\text{BALL}} \text{ DIA} / \cos(30) - 1/2 Q_{\text{BALL}} \text{ DIA}$$

$$e_{\text{BALL}} \text{ Max Radius} = 0.077350269 Q_{\text{BALL}} \text{ DIA}$$

$$e_{\text{BALL}} \text{ Max Dia} = 0.154700538 Q_{\text{BALL}} \text{ DIA}$$

**ADDED FOUNDATIONAL CHARACTERISTIC**

4. BECAUSE THE  $Q_{\text{BALL}}$  HAS PHYSICAL SIZE AND IS SPINNING IT HAS CHARGE AND CAN JOIN ON AN OPPOSITE CHARGE BASIS ELIMINATING THE NEED FOR GLUONS.
  - a. THIS WILL BE DERIVED LATER.
  - b. THUS ALL MASS IS CONTAINED IN THE QUARKS AND electron.

**BECAUSE THERE IS ONLY ONE DENSITY  $\rho_V$  CAN BE USED FOR MASS CALCULATIONS. THUS A DIAMETER RATIO CAN BE USED FOR A MASS RATIO.**

**THE MODEL SHOULD ESTABLISH AN UPPER AND LOWER LIMIT FOR THE MASS RATIO TO BE CONSIDERED TO HAVE ANY VALIDITY.**

THE LOWER LIMIT IS AT THE MINIMUM MASS RATIO WHICH IS AT MAXIMUM  $e_{\text{BALL}}$  DIAMETER.

$$\text{MIN MASS RATIO OF } Q_{\text{BALL}}/e_{\text{BALL}} = (1/0.154700538)^3$$

$$\text{MIN MASS RATIO OF } Q_{\text{BALL}}/e_{\text{BALL}} = 270.1$$

THE MAXIMUM MASS RATIO IS AT AN  $e_{\text{BALL}}$  DIAMETER OF ZERO. HOWEVER, THE  $Q_{\text{BALL}}$  MASS WOULD THEN BECOME INFINITE AND WE WOULD HAVE A BLACK HOLE AND THE MODEL WOULD FAIL. A MATTER OF FACT ALL OF NATURE'S PHYSICS WOULD FAIL AND THE UNIVERSE WOULD FAIL TO EXIST AND WE KNOW THAT'S NOT THE CASE.

THUS: AN  $e_{\text{BALL}}$  DIAMETER OF 0.100000000 WILL BE USED FOR THE MAXIMUM MASS RATIO LIMIT.

THE MAXIMUM MASS RATIO IS AT MINIMUM  $e_{\text{BALL}}$  DIAMETER.

$$\text{MAXIMUM MASS RATIO OF } Q_{\text{BALL}}/e_{\text{BALL}} = (1/0.10)^3$$

$$\text{MAXIMUM MASS RATIO OF } Q_{\text{BALL}}/e_{\text{BALL}} = 1000$$

THE TARGET VALUE FOR THE MASS RATIO OF  $Q_{\text{BALL}}/e_{\text{BALL}}$  WILL BE THE AVERAGE OF THE LIMITS

$$Q_{\text{BALL}}/e_{\text{BALL}} \text{ TARGET} = (1000 + 270.1)/2$$

$$Q_{\text{BALL}}/e_{\text{BALL}} \text{ TARGET} = 635.05$$

THIS RESULTS IN AN  $e_{BALL}$  TARGET DIAMETER OF 0.116340438  $Q_{BALL DIA}$ .

**NOW WE CAN CHECK OUR LIMITS AGAINST THE KNOWN REST MASS RATIO OF A PROTON TO AND electron.**

We first multiple the  $Q_{BALL}/e_{BALL}$  TARGET ratio by 3 to put IT into a  $P/e_{BALL}$  mass ratio.

TARGET  $P/e_{BALL}$  mass ratio = 1905.15

THE KNOWN  $P/e_{BALL}$  mass ratio = 1836

**NATURE'S MEND TARGET  $P/e_{BALL}$  MASS RATIO IS WITHIN 4% OF THE KNOWN.**

BECAUSE THIS RATIO IS A CUBED VALUE A BETTER COMPARISON FOR RELATIVE ACCURACY IS ACTUALLY AT THE  $e_{BALL}$  DIAMETER.

$Q_{BALL}/e_{BALL}$  KNOWN ratio = 1836/3

$Q_{BALL}/e_{BALL}$  KNOWN ratio = 612

$Q_{BALL DIA}/e_{BALL DIA}$  KNOWN =  $(612)^{1/3}$

$Q_{BALL DIA}/e_{BALL DIA}$  KNOWN = 8.49

$e_{BALL DIA}$  KNOWN = 0.117783067  $Q_{BALL DIA}$  KNOWN

**NATURE'S MEND TARGET VALUE ACCURACY AT THE e DIAMETER**

% DIFFERENCE =  $(e_{BALL DIA KNOWN} - e_{BALL DIA TARGET})/e_{BALL DIA KNOWN} \times 100$

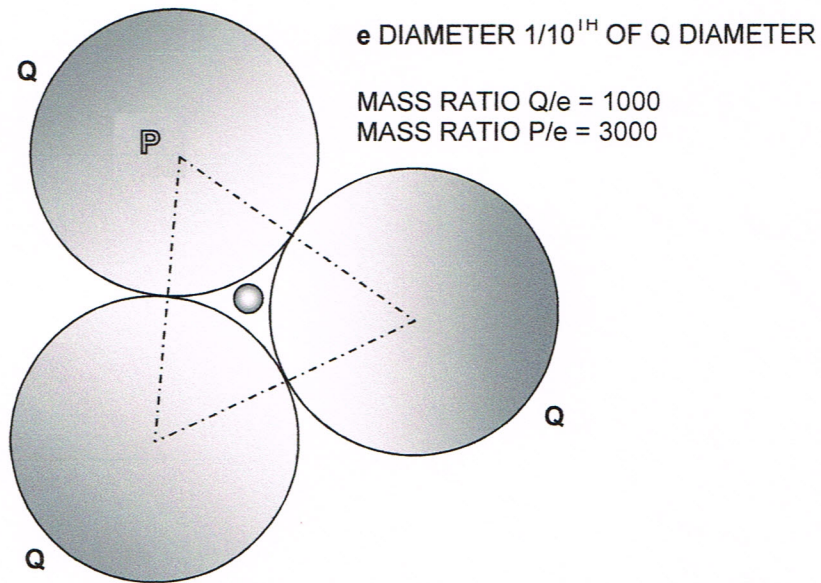
% DIFFERENCE =  $(0.117783067 - 0.116340438)/0.117783067 \times 100$

% DIFFERENCE = 1.225%

**IN THE ARENA OF PROCESS ENGINEERING AND MODELING THIS WOULD BE CONSIDERED TO BE VERY CLOSE AND WORTH FURTHER ANALYSIS.**

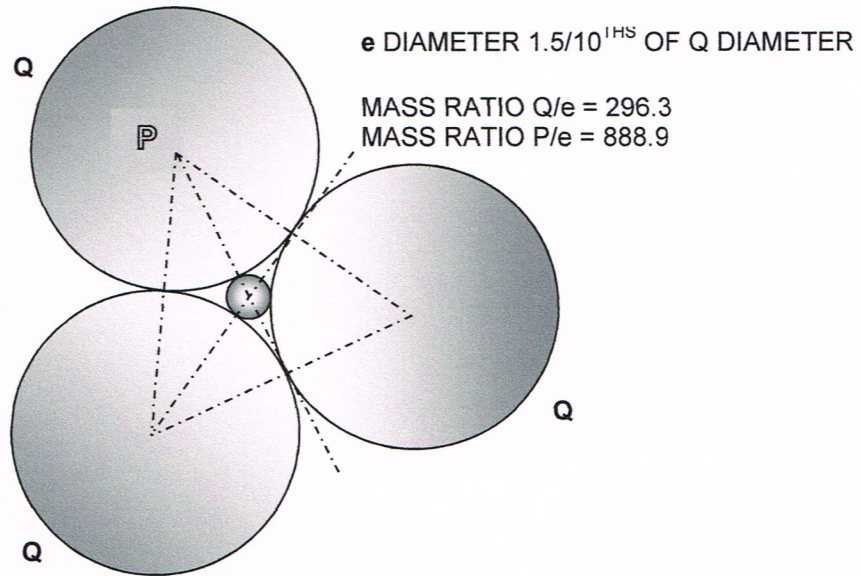
**CONSIDERING ALL THE ISSUES WITH CURRENT PHYSICS THEORY I BELIEVED IT WAS WORTH FURTHER CONSIDERATION AND CONTINUED ON THE PROJECT. ISSUES IN CURRENT PHYSICS THEORY IS FURTHER HIGHLIGHTED BY THE ELECTRON g-factor ISSUE.**





With e DIAMETER 1/10<sup>TH</sup> of Q DIAMETER – e can easily slip out of the core of the Q Trifoliolate.

With e DIAMETER 1.5/10<sup>THS</sup> of Q DIAMETER – the e appears to be binding.



**ESTIMATE FOR AVERAGE GEOMETRY OF e to Q DIAMETER**

AVERAGE MASS RATIO Q/e = 648 THUS e DIAMETER EQUALS 1.156/10THS OF Q DIAMETER

MASS RATIO P/e = 1944. CURRENT PHYSICS REST MASS RATIO P/e IS 1836 AND N/e IS 1839

CORRECTING NATURE'S MEND AVERAGE DIAMETER TO MATCH CURRENT PHYSICS

e DIAMETER RESULTS IN e DIAMETER OF 1.178.

NATURE'S MEND IS WITHIN 2% OF THE EXPECTED e DIAMETER! THE  $Q_{DIA}/e_{DIA} = 8.49$

# MAYBE THEY'RE NOT POINT PARTICLES?

**Q and e Related Geometry**

Figure 6.8

**NATURE'S MEND DERIVATION OF QUARK AND ELECTRON SPIN**

**SEE FIGURE 4.6 AND 8.1 FOR GRAPHICAL MODELS.**

**BASIC FOUNDATION FOR MODELING AND CALCULATION:**

1. STANDARD MODEL PARTICLES ARE NOT POINT PARTICLES.
  - a. THIS ALLOWS THE PARTICLES TO SPIN IN THE REALLY REAL WORLD.
2. A FREE QUARK IS CONSIDERED TO HAVE A SPIN OF 1.
  - a. THIS IS TWICE THE KNOWN SPIN VALUE OF QUARKS.
    - i. QUARKS CURRENTLY HAVE NEVER BEEN OBSERVED TO BE ALONE. THEY ARE ALWAYS IN THREE – IN A TRIFOLIATE.
      1. SO SOMETHING HAS TO HAPPEN WITH SPIN FROM A FREE QUARK TO THREE QUARKS JOINED IN A TRIFOLIATE.
3. IT'S CALLED A TRIFOLIATE AT THIS STAGE BECAUSE WE DON'T KNOW WHAT THE CHARGE ON IT IS SO IT COULD BE A PROTON OR A NEUTRON.
  - a. THE CHARGE OF THE TRIFOLIATE HAS BEEN DERIVED IN NATURE'S MEND BUT HAS NOT BEEN INCLUDED HERE BECAUSE IT IS NOT REQUIRED FOR THIS DERIVATION.

AGAIN IT TURNS OUT USING SIMPLE TRIGONOMETRY AND DYNAMICS THE RESULTANT SPIN AFTER JOINING CAN BE CALCULATED. SEE FIGURE 4.6.

Q1 AND Q2 CAN JOIN AND REMAIN WITH A FREE SPIN OF 1.

WHEN Q3 JOINS IT DOES SO WITH ITS SPIN PERPENDICULAR TO THE SPIN OF Q1 AND Q2. THIS RESULTS IN AN INDUCED TORQUE ON Q1 AND Q2 TO REALIGN SO THAT ALL THREE QUARKS SPIN ABOUT THE CENTER OF THE TRIFOLIATE.

WE WILL LOOK AT THE SPIN OF Q1 FIRST. ORIGINALLY IT IS AT A SPIN OF 1 SHOWN AS VECTOR 1. THE CONTACT ANGLE BETWEEN Q1 AND Q3 IS 60 DEGREES. THUS VECTOR 2 THE SPIN VALUE AT THE ALIGNMENT BETWEEN Q1 AND Q3 IS  $1 \times \cos(60)$  WHICH EQUALS A SPIN OF  $1/2$ . IT WOULD BE CONVENIENT BUT NOT CORRECT.

VECTOR 2 IS TORQUED OUT OF ALIGNMENT WITH Q3 BY 30 DEGREES. TO CORRECT BACK TO AN ALIGNED SPIN BETWEEN QUARKS WE TAKE VECTOR 2  $\times \cos(30)$  WHICH RESULTS IN VECTOR 3 WITH A VALUE OF 0.433.

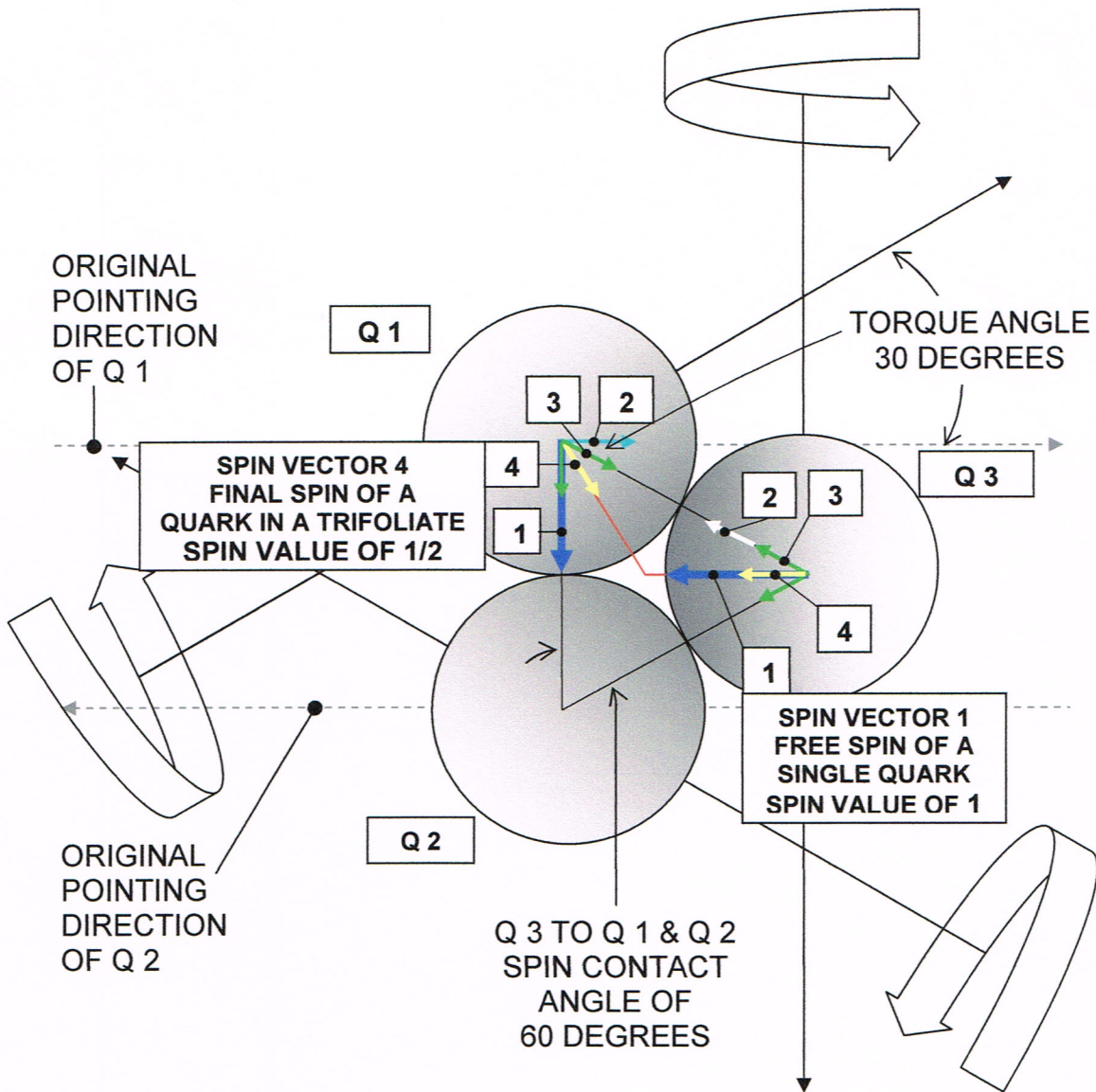
BECAUSE THIS IS A RESULTANT VECTOR OF THE ACTUAL SPIN ABOUT THE CORE OF THE TRIFOLIATE WE DIVIDE VECTOR 3 BY  $\cos(30)$  TO ACHIEVE THE REDUCED SPIN VALUE OF Q1 WHICH RESULTS IN A SPIN VALUE Q1 IN A TRIFOLIATE OF  $1/2$ .

**NATURE'S MEND HAS A SPIN VALUE FOR QUARKS EQUAL TO A HALF WHEN COMBINED IN A TRIFOLIATE.**

Q2 IS A MIRROR IMAGE OF Q1 SO CALCULATIONS DO LITTLE TO VALIDATE THE RESULT.

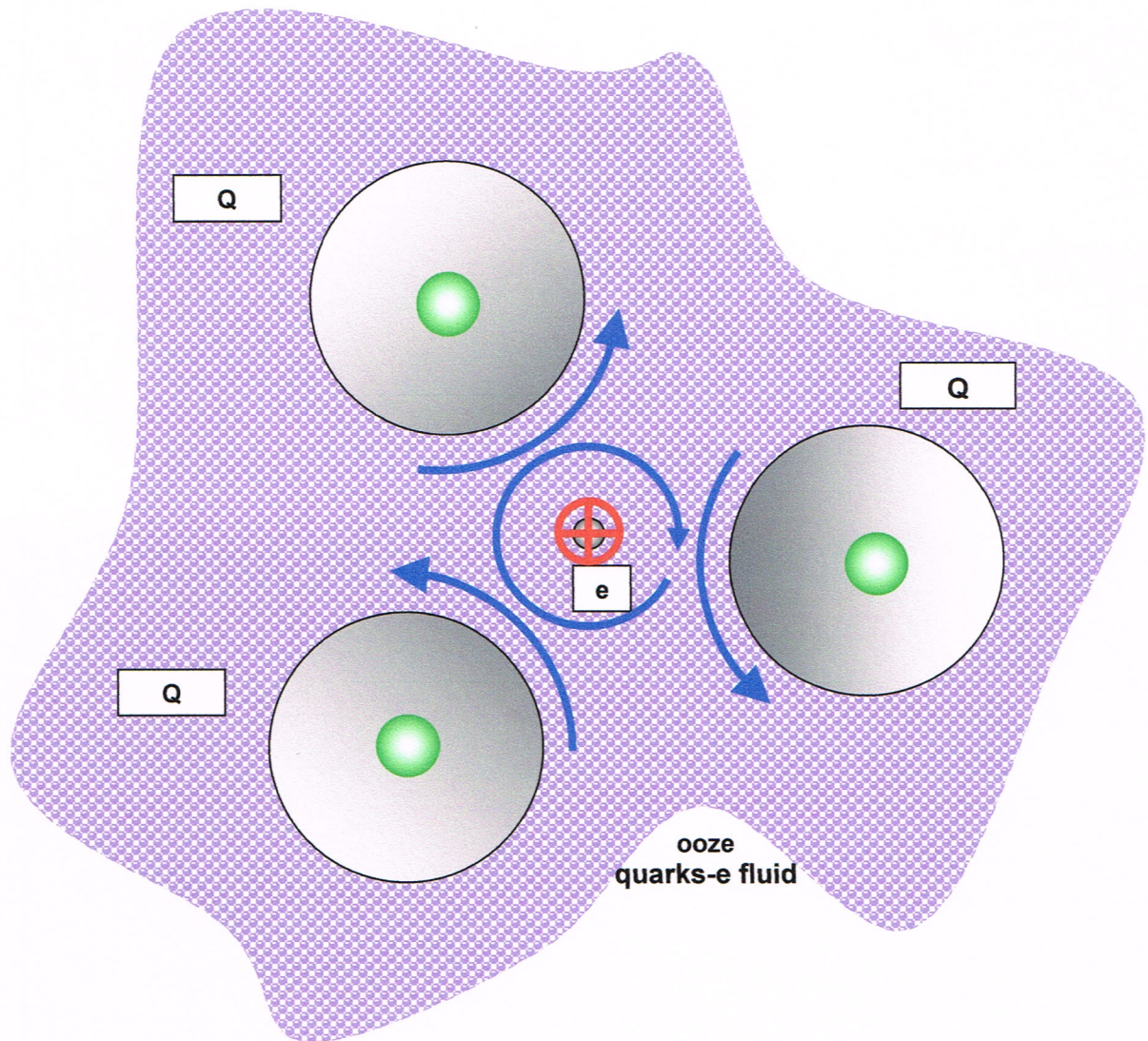
IF YOU LOOK AT Q3 YOU CAN VALIDATE THE RESULTS USING THE SAME SIMPLE TRIGONOMETRY. NOTE: BECAUSE THE FREE SPIN OF Q3 IS ALIGNED WITH THE CENTER OF THE TRIFOLIATE VECTOR 2 IS VECTOR 1  $\cos(30)$ . VECTOR 2 ON Q3 IS THEN DIVIDED BY 2 TO ACHIEVE VECTOR 3. WHEN Q3'S VECTOR 3 IS DIVIDED BY  $\cos(30)$  Q3 VECTOR 4 TURNS OUT TO BE THE SAME AS THE Q1 VECTOR 4 AT  $1/2$  SPIN.

LOOK AT FIGURE 8.1: AS THE QUARKS FUSE TOGETHER THEIR SPINS REALIGN TO THE CORE AND EJECT THE electron OUT THE BACKSIDE AND CAPTURE IT IN ITS ORBIT ON-AROUND-THROUGH THE QUARK TRIFOLIATE.



**3 Quarks (Trifoliate) Spin Vectors**  
Figure 4.6

**NOTE: A FREE QUARK WITH SPIN 1 SLOWS TO A SPIN 1//2 WHEN JOINED IN A TRIFOLIATE AND THE TRIFOLIATE IS NOW SPINNING AT 1/2 SPIN BASED ON CONSERVATION OF MOMENTUM**



**HYDROGEN FORMATION  
AT NATURE'S CORE**

Figure 8.1

**NOTE: AS THE THREE SPINNING QUARKS  
COME TOGETHER ON A CHARGE BASIS  
THEY COMPRESS THE OOZE AT THE CORE AND FORM  
AN ELECTRON SPINNING IN THE OPPOSITE DIRECTION**

## **NATURE'S MEND DERIVATION OF ATTRACTIVE CHARGE**

**SEE FIGURE 4.8, 4.9, 4.10 AND 4.11 FOR GRAPHICAL MODELS.**

### **BASIC FOUNDATION FOR MODELING AND CALCULATION:**

1. STANDARD MODEL PARTICLES ARE NOT POINT PARTICLES.
  - a. THIS ALLOWS THE PARTICLES TO SPIN IN THE REALLY REAL WORLD.
2. SPINNING PARTICLES IN AN ATMOSPHERE WILL BUILD CHARGE.

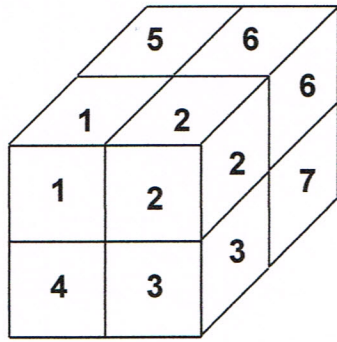
THIS IS A VERY SIMPLE 3 COORDINATE VECTOR ANALYSIS AND IS SHOWN IN FIGURE 4.8.

THERE ARE 8 WEDGES IN A SPHERE. EACH OF THOSE WEDGES HAS ITS OWN UNIQUE RADIAL POINTING VECTOR. EACH RADIAL POINTING VECTOR RESULTS IN A SURFACE CHARGE OF PLUS OR MINUS.

I DON'T THINK THAT I NEED TO GO THROUGH THE PROCESS OF HOW THE SIGNS ARE ASSIGNED TO EACH RADIAL POINTING VECTOR. THEY ARE SHOWN IN FIGURE 4.9.

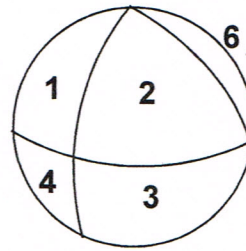
FIGURES 4.9 – 4.11 SHOW THAT FREE QUARKS THAT HAVE A PHYSICAL SPHERICAL SHAPE WITHIN IN AN ATMOSPHERE WILL BUILD CHARGE AND JOIN ON AN OPPOSITE CHARGE BASIS.

THIS SUPPORTS THE QUARKS FUSING INTO A TRIFOLIATE AND DRIVING OUT THE ELECTRON AS DISCUSSED PREVIOUSLY AND SHOWN IN FIGURE 8.1.



THE 8 CUBES  
IN ONE CUBE

CUBE 8 IS IN  
THE BACK  
LOWER  
CORNER

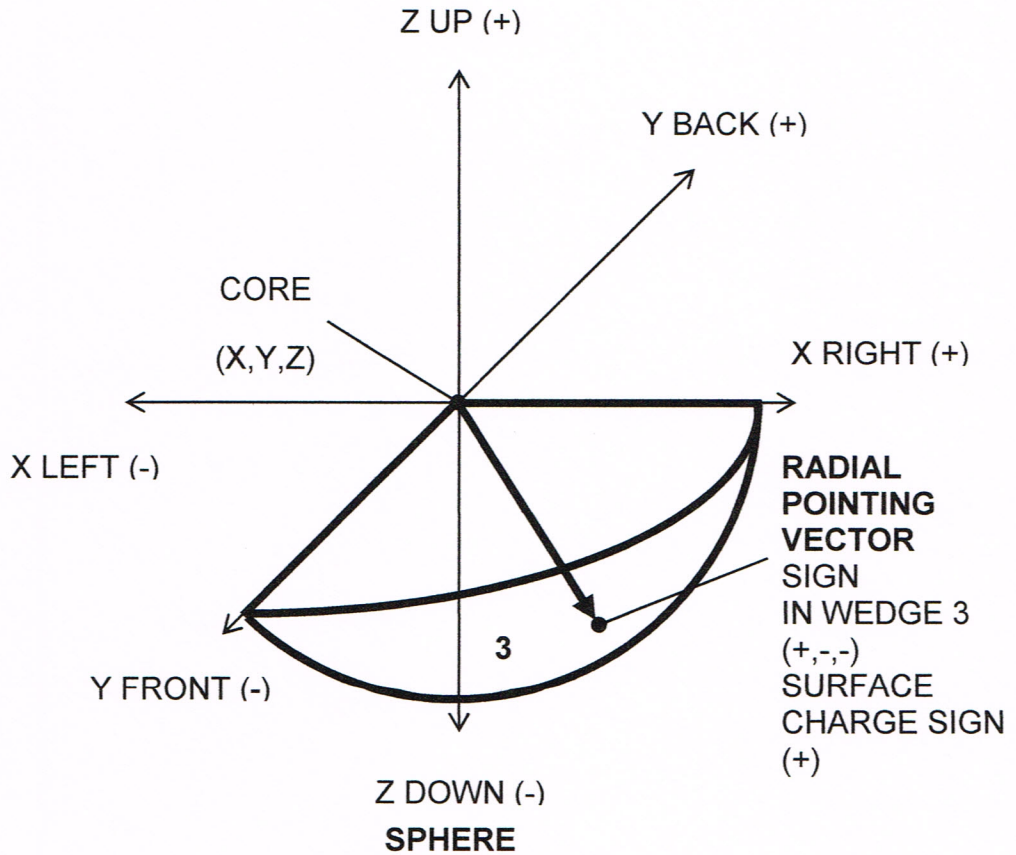


WEDGES 5,  
7, 8 ARE  
NOT  
VISIBLE

THE 8 WEDGES  
IN ONE SPHERE

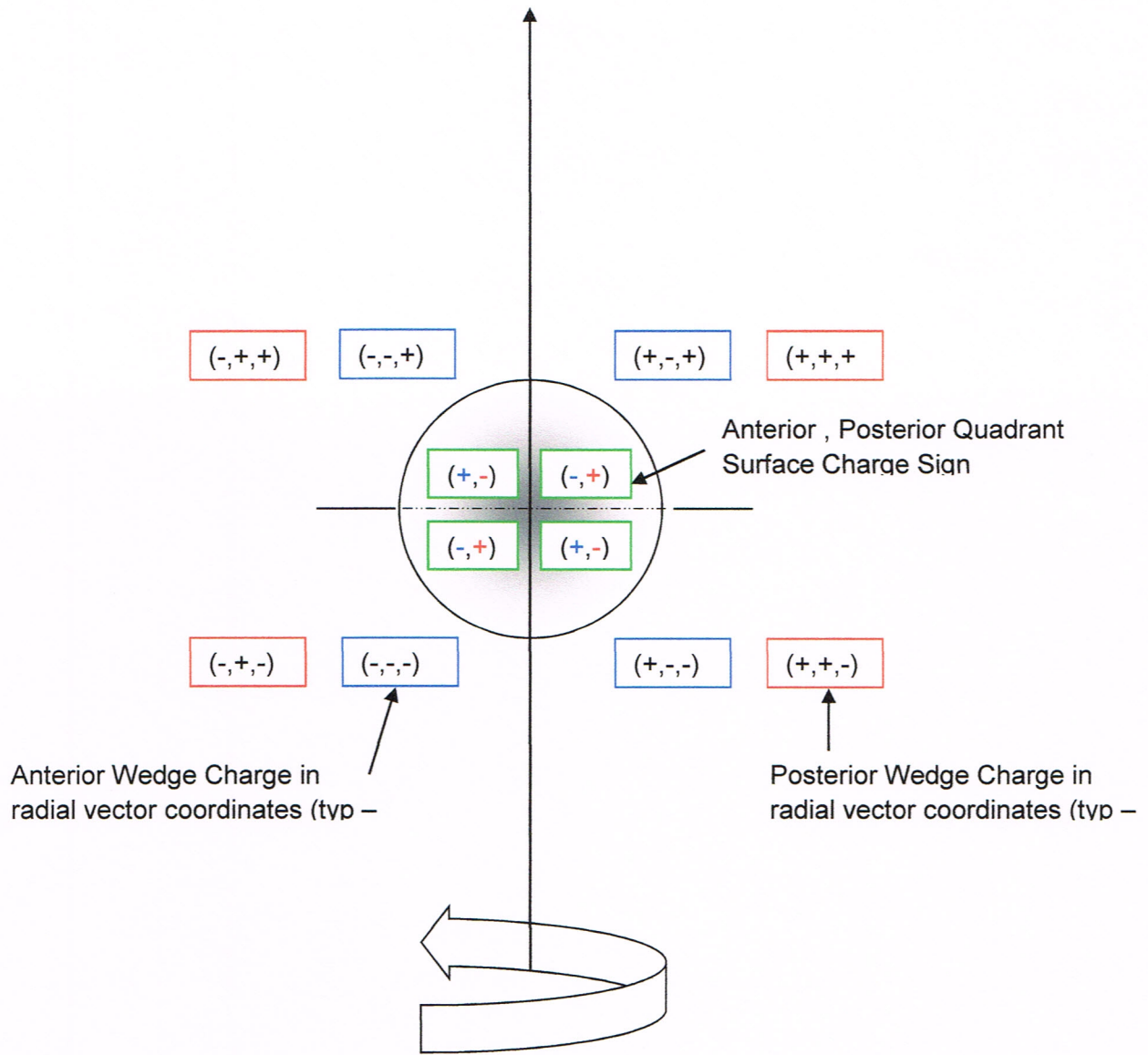
8CUBES IN A STATIC CUBE TO 8 WEDGES IN A SPINNING SPHERE

SPINNING SPHERES BECOME CHARGED



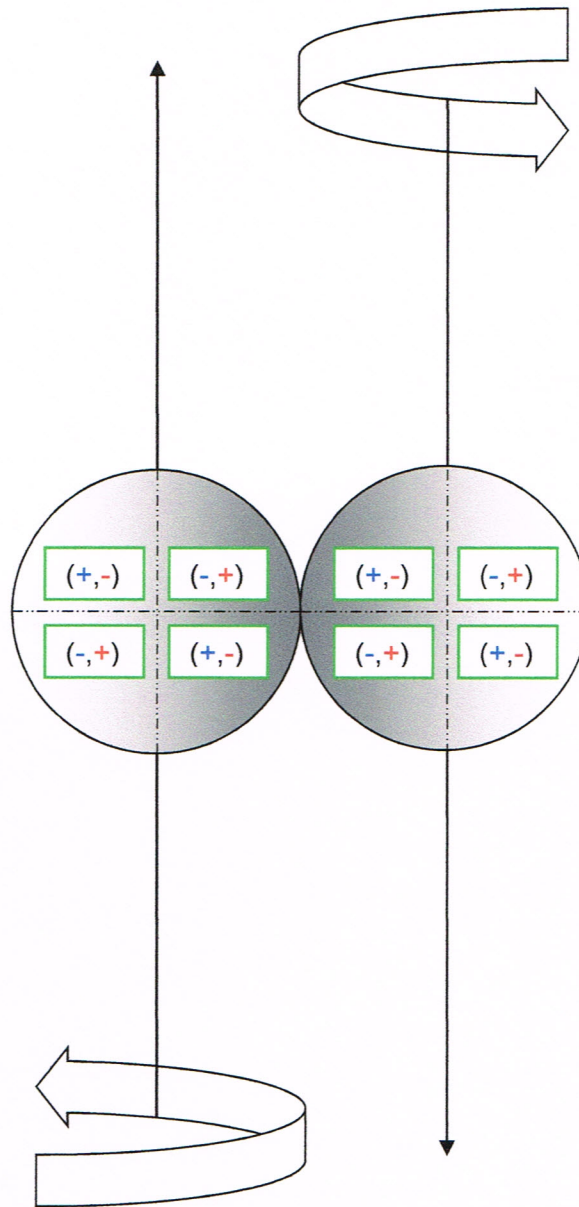
STATIC CUBE INSIDE A WEDGE OF THE SPINNING TO SPINNING SPHERE  
WITH  
CHARGE & SIGN

Figure 4.8



**One SPINNING Quark Charge Signs**

Fig 4.9

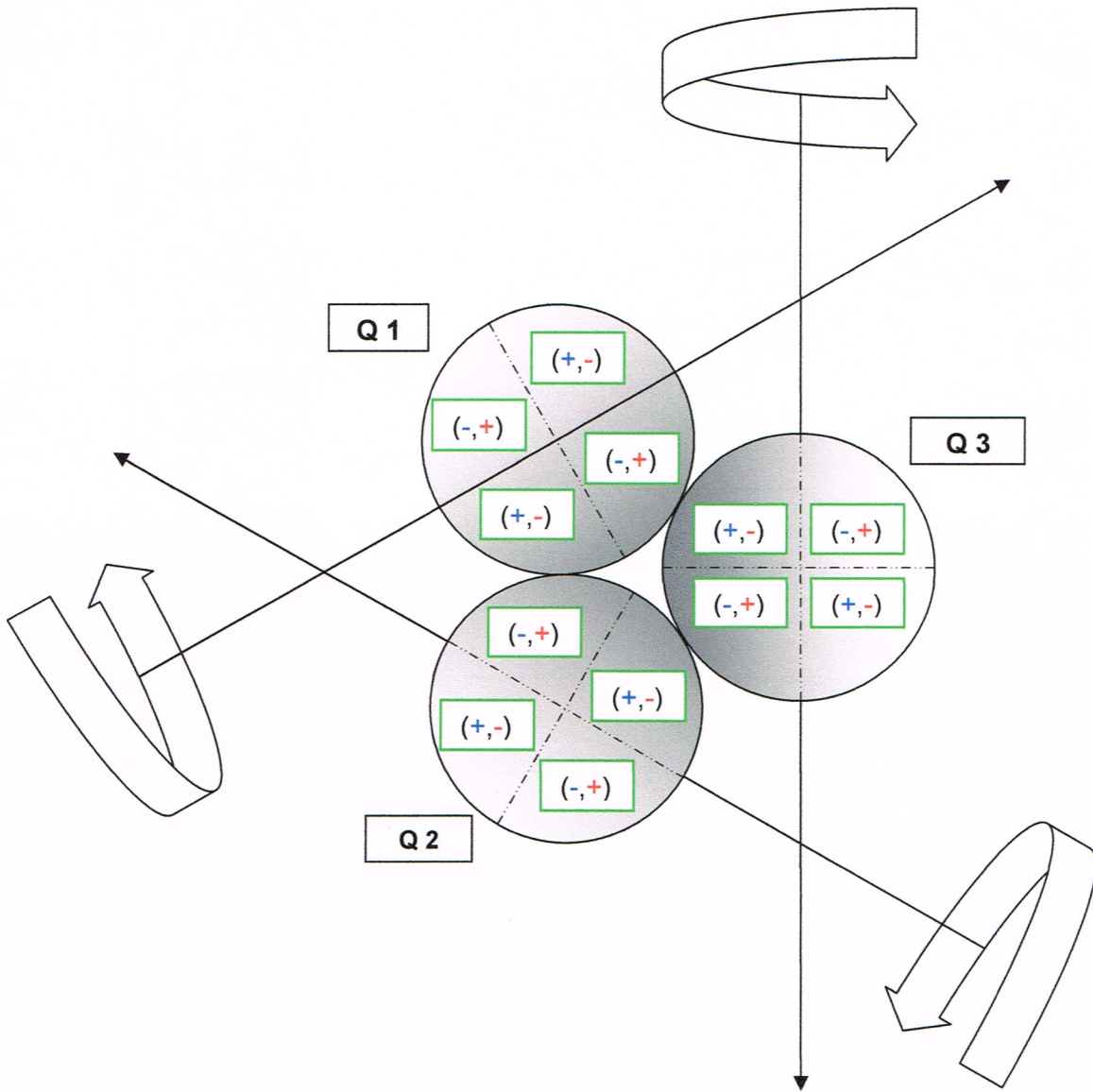


**Two SPINNING Quark Charge Signs**

**NOTE: THEY JOIN BY OPPOSITE CHARGE**

Fig 4.10





**SPINNING Quarks in a SPINNING Quark Trifoliate**  
**Charge Signs**  
**NOTE: THEY JOIN BY OPPOSITE CHARGE**

Fig 4.11

**NATURE'S MEND DERIVATION OF electron g-FACTOR.**

**BASIC FOUNDATION FOR MODELING AND CALCULATION:**

1. STANDARD MODEL PARTICLES ARE NOT POINT PARTICLES.
  - a. THIS ALLOWS THE PARTICLES TO HAVE PHYSICAL SIZE.
  - b. THIS ALLOWS THE PARTICLES TO SPIN IN THE REALLY REAL WORLD.
2. SPINNING PARTICLES IN AN ATMOSPHERE WILL BUILD CHARGE AND JOIN ON AN OPPOSITE CHARGE BASIS.
3. SEE FIGURE 8.14 FOR A GRAPHICAL MODEL OF THE ABOVE.
  - a. THE BLUE ARROWS ARE THE SPIN DIRECTION INTO THE CORE
  - b. THE GREEN AND RED ARROWS ARE THE RIGHT-HANDED POINTING VECTORS.
    - i. GREEN IS POSITIVE - QUARKS.
    - ii. RED IS NEGATIVE - electron.
  - c. THE GREEN ARC IS THE SPIN INDUCED ON THE TRIFOLIATE FROM THE THREE QUARKS SLOWING TO 1/2 SPIN. THIS IS THE MAGNETIC COMPONENT.
    - i. THE SPIN ON THE TRIFOLIATE WOULD ALSO BE 1/2. 3 X 1/2 SPINS IS A SPIN OF 1-1/2. BUT THE TRIFOLIATE IS 3 QUARK MASSES SO (1-1/2)/3 = 1/2.
    - ii. THE SPIN OF THE electron AT BIRTH IS IN THE SAME PLANE AS THE TORQUE COMPONENT AND HAS THE SAME DIRECTION AS THE TORQUE COMPONENT.
      1. COMPARE THE electron ROTATION IN FIGURE 8.1 AND THE TRIFOLIATE TORQUE IN 8.14.

4. THE TOTAL MAGNETIC MOMENTUM

a.  $L_{TOT (MAGNETIC)} =$

$$L_{QUARK SPIN INDUCED e SPIN} + L_{QUARK SPIN INDUCED TORQUE} + L_{e-ORBIT (MAGNETIC)} + L_{e-INERTIA}$$

BECAUSE WE HAVE ESTABLISHED THE RELATIVE SIZE OF THE QUARK AND electron WE CAN ALSO DO COMPARATIVE MOMENTUM DERIVATIONS.

ANGULAR MOMENTUM OF AN ORBITING SPHERE

$$L_{ORBITAL} = m_{PARTICLE} R_{WAVE} R_{WAVE} \omega_{WAVE}$$

ANGULAR MOMENTUM OF A SPINNING SPHERE (THIS IS AN ADDED VALUE FROM PREVIOUS CALCULATIONS). THIS IS TYPICALLY NEGLECTED FOR ORBITAL MOTION IN PLANETS, BUT BECAUSE IN THIS ARENA THE RELATIVE RADII ARE MUCH CLOSER IT WILL BE INCLUDED FOR THIS DERIVATION.

$$L_{SPINNING} = I_{PARTICLE} \omega_{PARTICLE}$$

$I_{PARTICLE}$  is the MOMENT OF INERTIA OF THE PARTICLE:  $I = 2/5(m)R^2$

$\omega_{PARTICLE}$  is the ANGULAR VELOCITY OF THE PARTICLE

$$L_{SPINNING} = 2/5(m_{PARTICLE})R_{PARTICLE}R_{PARTICLE}\omega_{PARTICLE}$$

THUS THE TOTAL MAGNETIC ANGULAR MOMENTUM OF THE electron CAN BE WRITTEN AS

$$L_{TOT (MAGNETIC)} = L_{QUARK SPIN INDUCED e SPIN} + L_{QUARK SPIN INDUCED TORQUE} + L_{e-ORBIT (MAGNETIC)} + L_{e-INERTIA}$$

ALSO WRITTEN IN THE FORM

$$L_{QUARK SPIN INDUCED e SPIN} +$$

$$L_{QUARK SPIN INDUCED TORQUE} +$$

$$L_{e-ORBIT (MAGNETIC)} +$$

$$L_{e-INERTIA}$$

---


$$L_{TOT (MAGNETIC)}$$

NOTE: BECAUSE OF THE CONSERVATION OF MOMENTUM:

$$L_{\text{QUARK SPIN INDUCED e SPIN}} = L_{\text{QUARK SPIN INDUCED TORQUE}}$$

THE ABOVE SUMMATION CAN BE WRITTEN AS:

$$L_{\text{QUARK SPIN INDUCED e SPIN}} = m_{\text{QUARK EFFECTIVE}} R_{\text{WAVE}} R_{\text{WAVE}} \omega_{\text{WAVE}}$$

+

$$L_{\text{QUARK SPIN INDUCED TORQUE}} = m_{\text{QUARK EFFECTIVE}} R_{\text{WAVE}} R_{\text{WAVE}} \omega_{\text{WAVE}}$$

+

$$L_{\text{e-ORBIT (MAGNETIC)}} = m_{\text{electron}} R_{\text{WAVE}} R_{\text{WAVE}} \omega_{\text{WAVE}}$$

+

$$L_{\text{e-INERTIA}} = 2/5(m_{\text{electron}}) R_{\text{electron}} R_{\text{electron}} \omega_{\text{electron}}$$

---


$$L_{\text{TOT (MAGNETIC)}} = \text{SUM OF ABOVE}$$

BECAUSE THE ORBITAL PATH OF THE electron ROTATES WITHIN THE PHYSICAL GAP BETWEEN THE TWO QUARKS THE EFFECTIVE MASS OF THE QUARK [ $m_{\text{QUARK EFFECTIVE}}$ ] BECOMES:

$$m_{\text{QUARK EFFECTIVE}} = (R_{\text{WAVE}}/R_{\text{QUARK}})^3 m_{\text{QUARK}}$$

THUS

FOR A TIGHTER electron ORBIT THE MASS EFFECT OF THE QUARK IS REDUCED.

AND

FOR AN INCREASED electron ORBIT THE MASS EFFECT OF THE QUARK IS INCREASED.

THUS THE  $m_{\text{QUARK}}$  CAN BE WRITTEN:

$$m_{\text{QUARK}} = m_{\text{QUARK EFFECTIVE}} / (R_{\text{WAVE}}/R_{\text{QUARK}})^3$$

FOR A MATHEMATICAL SUMMATION OF MULTIPLIERS OF EACH ITEM IN THE TOTAL MAGNETIC MOMENTUM SUM THE LAST TWO TERMS NEED TO BE MODIFIED TO HAVE LIKE TERMS AS THE FIRST TWO ITEMS.

THUS FOR:

$$L_{\text{e-ORBIT (MAGNETIC)}} = m_{\text{electron}} R_{\text{WAVE}} R_{\text{WAVE}} \omega_{\text{WAVE}}$$

$m_{\text{electron}}$  NEEDS TO BE PUT IN TERMS OF THE EFFECTIVE MASS OF THE QUARK:

$$m_{\text{electron}} = (R_{\text{electron}}/R_{\text{QUARK}})^3 m_{\text{QUARK}}$$

THE 8.49 IS THE RATIO OF e/Q THAT RESULTS IN THE CORRECT REST MASS RATIO OF THE PROTON TO ELECTRON.

$$m_{\text{electron}} = (R_{\text{electron}}/R_{\text{QUARK}})^3 m_{\text{QUARK EFFECTIVE}} / (R_{\text{WAVE}}/R_{\text{QUARK}})^3$$

THIS CAN BE REWRITTEN AS:

$$m_{\text{electron}} = (R_{\text{electron}}/R_{\text{WAVE}})^3 m_{\text{QUARK EFFECTIVE}}$$

SUBSTITUTING THIS INTO THE  $L_{\text{e-ORBIT}}$  EQUATION RESULTS IN:

$$L_{\text{e-ORBIT (MAGNETIC)}} = (R_{\text{electron}}/R_{\text{WAVE}})^3 m_{\text{QUARK EFFECTIVE}} R_{\text{WAVE}} R_{\text{WAVE}} \omega_{\text{WAVE}}$$

THE TOTAL SUMMATION NOW LOOKS LIKE:

$$L_{\text{QUARK SPIN INDUCED e SPIN}} = m_{\text{QUARK EFFECTIVE}} R_{\text{WAVE}} R_{\text{WAVE}} \omega_{\text{WAVE}}$$

+

$$L_{\text{QUARK SPIN INDUCED TORQUE}} = m_{\text{QUARK EFFECTIVE}} R_{\text{WAVE}} R_{\text{WAVE}} \omega_{\text{WAVE}}$$

+

$$L_{\text{e-ORBIT (MAGNETIC)}} = (R_{\text{electron}}/R_{\text{WAVE}})^3 m_{\text{QUARK EFFECTIVE}} R_{\text{WAVE}} R_{\text{WAVE}} \omega_{\text{WAVE}}$$

+

$$L_{\text{e-INERTIA}} = 2/5(m_{\text{electron}}) R_{\text{electron}} R_{\text{electron}} \omega_{\text{electron}}$$

---


$$L_{\text{TOT (MAGNETIC)}} = \text{SUM OF ABOVE}$$

NOW TO PUT THE  $L_{\text{e-INERTIA}}$  INTO COMMON TERMS SO A SUMMATION CAN BE MADE.

$$L_{\text{e-INERTIA}} = 2/5(m_{\text{electron}}) R_{\text{electron}} R_{\text{electron}} \omega_{\text{electron}}$$

SUBSTITUTING THE MASS OF THE electron RESULTS IN:

$$L_{\text{e-INERTIA}} = 2/5(R_{\text{electron}}/R_{\text{WAVE}})^3 m_{\text{QUARK EFFECTIVE}} R_{\text{electron}} R_{\text{electron}} \omega_{\text{electron}}$$

TO ALLOW FOR SMOOTH MOTION AND AVOID DYNAMIC BRAKING EFFECTS ON EITHER PARTICLE

$$V_e = V_Q @ R\text{-WAVE}$$

$$V_e = (R_e) \omega_e$$

$$V_Q @ R\text{-WAVE} = (R_Q) \omega_Q R_{\text{WAVE}} / R_Q$$

THUS

$$(R_e) \omega_e = (R_{\text{WAVE}}) \omega_Q$$

$$\omega_e = (R_{\text{WAVE}}) \omega_Q / (R_e)$$

SUBSTITUTING  $\omega_e = (R_{\text{WAVE}}) \omega_Q / (R_e)$  INTO  $L_e$  RESULTS IN:

$$L_{\text{e-INERTIA}} = 2/5(R_{\text{electron}}/R_{\text{WAVE}})^3 m_{\text{QUARK EFFECTIVE}} R_{\text{electron}} R_{\text{electron}} (R_{\text{WAVE}}) \omega_Q / (R_{\text{electron}})$$

$$L_{\text{e-INERTIA}} = 2/5(R_{\text{electron}}/R_{\text{WAVE}})^3 m_{\text{QUARK EFFECTIVE}} R_{\text{electron}} (R_{\text{WAVE}}) \omega_Q$$

MULTIPLY BOTH SIDES BY  $(R_{\text{WAVE}}/R_{\text{WAVE}})$  WHICH IS 1.0 RESULTS IN:

$L_{e-INERTIA}$

$$= 2/5(R_{electron}/R_{WAVE})^3 m_{QUARK EFFECTIVE}(R_{WAVE})(R_{WAVE})\omega_Q$$

THIS CAN BE FURTHER REDUCED TO:

$$L_{e-INERTIA} = 2/5(R_{electron}/R_{WAVE})^4 m_{QUARK EFFECTIVE}(R_{WAVE})(R_{WAVE})\omega_Q$$

NOW WE NEED TO CONVERT THE  $\omega_Q$  INTO TERMS OF  $\omega_{WAVE}$ .

AS THE ANGLE BETWEEN THE POSITION OF THE electron AND  $\omega_Q$  APPROACHES 90 DEGREES THE VELOCITY OF THE electron APPROACHES THE VELOCITY AT THE QUARK SURFACE THUS  $\omega_{WAVE}$  APPROACHES  $\omega_Q$  THUS:

$$\omega_{WAVE} = \omega_Q R_{WAVE}/R_{QUARK}$$

$$\omega_Q = \omega_{WAVE} R_{QUARK}/R_{WAVE}$$

$$R_{QUARK} = 8.49 R_{electron}$$

THUS

$$\omega_Q = \omega_{WAVE} 8.49 R_{electron} / R_{WAVE}$$

SUBSTITUTING THIS INTO  $L_{e-INERTIA}$  RESULTS IN:

$$L_{e-INERTIA} = 2/5(R_{electron}/R_{WAVE})^4 m_{QUARK EFFECTIVE}(R_{WAVE})(R_{WAVE})\omega_{WAVE} 8.49 R_{electron}/R_{WAVE}$$

THIS CAN BE REDUCED TO:

$$L_{e-INERTIA} = (2/5)(8.49)(R_{electron}/R_{WAVE})^5 m_{QUARK EFFECTIVE}(R_{WAVE})(R_{WAVE})\omega_{WAVE}$$

SUBSTITUTING THE  $L_{e-INERTIA}$  EQUATION INTO THE SUMMATION EQUATION

THE TOTAL SUMMATION NOW LOOKS LIKE:

$$L_{QUARK SPIN INDUCED e SPIN} = 1.0 \times m_{QUARK EFFECTIVE} R_{WAVE} R_{WAVE} \omega_{WAVE}$$

+

$$L_{QUARK SPIN INDUCED TORQUE} = 1.0 \times m_{QUARK EFFECTIVE} R_{WAVE} R_{WAVE} \omega_{WAVE}$$

+

$$L_{e-ORBIT (MAGNETIC)} = (R_{electron}/R_{WAVE})^3 \times m_{QUARK EFFECTIVE} R_{WAVE} R_{WAVE} \omega_{WAVE}$$

+

$$L_{e-INERTIA} = (2/5)(8.49)(R_{electron}/R_{WAVE})^5 \times m_{QUARK EFFECTIVE}(R_{WAVE})(R_{WAVE})\omega_{WAVE}$$

$L_{TOT (MAGNETIC)}$

=

$$(1.0 + 1.0 + (R_{electron}/R_{WAVE})^3 + (2/5)(8.49)(R_{electron}/R_{WAVE})^5) \times m_{QUARK EFFECTIVE}(R_{WAVE})(R_{WAVE})\omega_{WAVE}$$

THIS CAN BE REWRITTEN AS:

$L_{TOT (MAGNETIC)}$

=

$$(1.0 + 1.0 + (DIA_e/DIA_{WAVE})^3 + (2/5)(8.49)(DIA_e/DIA_{WAVE})^5) \times m_{QUARK EFFECTIVE}(R_{WAVE})(R_{WAVE})\omega_{WAVE}$$

ALLOWING THE DIAMETER OF THE electron TO BE ONE UNIT THIS CAN BE REWRITTEN AS:

$$(1.0 + 1.0 + (1/DIA_{WAVE})^3 + (2/5)(8.49)(1/DIA_{WAVE})^5) \times m_{QUARK EFFECTIVE}(R_{WAVE})(R_{WAVE})\omega_{WAVE}$$

THE FIRST TERM OF THE EQUATION BECOMES THE electron g-factor FOR THE TOTAL MAGNETIC MOMENT

THUS A NATURE'S MEND g-factor FOR "MINIMUM MODELED WAVE DIAMETER" OF 5.32 WOULD BE:

$$g\text{-factor} = (1.0 + 1.0 + (1/5.32)^3 + (2/5)(8.49)(1/5.32)^5)$$

$$g\text{-factor} = 2.007438394$$

AND A NATURE'S MEND g-factor FOR "MAXIMUM MODELED WAVE DIAMETER" OF 8.49 WOULD BE:

$$g\text{-factor} = (1.0 + 1.0 + (1/8.49)^3 + (2/5)(8.49)(1/8.49)^5)$$

$$g\text{-factor} = 2.001711083$$

THE REQUIRED electron g-factor OF 2.002319304 IS WITHIN THE RANGE OF MAXIMUM electron g-factor FOR THE MINIMUM MODELED WAVE RADIUS AND THE MINIMUM electron g-factor FOR THE MAXIMUM MOLDED WAVE RADIUS.

SOLVING FOR THE REQUIRED WAVE DIAMETER TO MATCH THE EXPERIMENTALLY MEASURED electron g-factor RESULTS IN A REQUIRED WAVE DIAMETER OF:

$$DIA_{WAVE} = 7.6963461426$$

- MINIMUM WAVE DIAMETER = 5.32
- REQUIRED WAVE DIAMETER = 7.6963461426
- MAXIMUM WAVE DIAMETER = 8.49

**THE EXPERIMENTAL REQUIRED RADIUS FALLS WITHIN THE RANGE OF NATURE'S MEND MODELED MINIMUM AND MAXIMUM RADII.**

CONTINUED BULKING OF THIS SHOULD PROVIDE LIMITS THAT ESTABLISH BOUNDARIES FOR OTHER PARTICLE CHARACTERISTICS THAT HAVE NOT BEEN ADDRESSED IN NATURE'S MEND TO DATE.

***SPECIAL NOTE: HAVING A GEOMETRICAL MODEL THAT CAN PREDICT THE LIMITS OF A SYSTEM ALLOWS THE MODEL TO BE FINE TUNED TO THE ACTUAL OBSERVATIONS OF THE SYSTEM, WHICH THEN ALLOWS THE MODEL TO BE USED TO PREDICT THE OUTCOMES FOR VARIOUS EVENTS WITHIN THE SYSTEM. THERE IS A LONG ROAD AHEAD FOR NATURE'S MEND BUT I BELIEVE IT HAS STARTED TO CUT A GREAT TRAIL.***

