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PROPERTIES OF OXYGEN AND THEIR RELATIONSHIP TO EINSTEIN'S SPECIAL RELATIVITY THEORY

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Abstract

Oxygen has been shown able to be released from aqueous water when the water flows through magnetic fields. Such a production process is called magneto synthesis and it is successful when the principle of induced current took place. Oxygen produced from this newly discovered process possessed properties differently when compared to the photosynthesis process. This study can be made when the magneto synthesis process was carried out closed to the saturation point of oxygen dissolution equilibrium in aqueous water. At the saturation point, the exchange

of oxygen atoms or molecules between these two processes has happened. This interchange state allowed a unique single steep-drop characteristic to be observed. The single steep-drop characteristic of the magneto synthesis process provides two pieces of evidence on the properties of oxygen; they are heavier by mass and higher by oxidative power. The unique properties as discovered are supported by Einstein's Special Relativity Theory. In this matter, gamma-ray flashes are thought to produce when the hydrogen-electron pairs are formed. A mechanism where gamma-ray flashes could be produced was proposed and sufficient evidence for gamma-ray flashes to occur was outlined. The gamma-ray flashes are the clue in the interpermutable between the mass and energy. This is the clue to let the special relativity theory take a place.

Keywords

Magneto synthesis process, Oxygen, Oxidative power, Einstein's Special Relativity Theory, Gamma-ray flashes, Water

1. Introduction

Upon observation that oxygen can be produced from aqueous water, the authors performed further experiments by repeating several magnetic treatments on the water stream. This aimed to study the properties of oxygen molecules that are just produced by the magnetic treatment. When more experiments are repeated up to a saturation point, oxygen captured in water due to magnetic treatment shall be saturated. At saturation point, any additional production of oxygen shall be expelled away from the water matrix to the ambient air. At the same time, oxygen available in the ambient air will enter the water matrix due to Newton's Third Law, this phenomenon is called "exchange". When the "exchange" occurs, at the saturation point, a comparison between those available in the atmosphere and those in the water can be made. Such comparison can reveal the difference in properties of the oxygen (Low et al., 2022).

2. Literature Review

The author in their previous paper (Low et al., 2021) reported oxygen molecules can be free off from aqueous water in the case the stream of aqueous water moves through magnetic fields. The authors carried out more work aimed to find out the properties of the oxygen produced from aqueous water. The authors thought that when a new natural process is discovered; there might be accompanied by some unexpected consequences. The authors

examined the periodic table (Coplen & Shrestha, 2016; Moss & Lide, 2019); the atomic mass of the oxygen was reported by scientists (Coplen.& Shrestha, 2016; Moss & Lide, 2019) is not a fixed value, indeed it is in a range. Not just oxygen; many other elements are also in a range value; however, some are fixed. Table 2 showed some examples of elements with a fixed value whereas Table 1 showed those are in a range. This analysis showed that some elements can adjust their mass although the number of protons, neutrons, and electrons in their atomic structure is the same. According to Einstein's special relativity theory, the higher the mass of an atom, the higher the stored energy in this atom. This is refer to the famous equation, E=mc². When this atom losses partial mass, it shall be transmuted into a form of energy and be released; however, Einstein did not figure out the method of how the mass of them can be reduced and the form of energy can be released. On the other hand, Einstein also did not point out how mass can be gained from energy by transmutation.

| At | Symbol | Name | Minimum Atomic | Maximum Atomic |
|----|--------|-----------|----------------|----------------|
| No | | | Wt | Wt |
| 1 | Н | hydrogen | 1.007 84 | 1.008 11 |
| 3 | Li | lithium | 6.938 | 6.997 |
| 5 | В | boron | 10.806 | 10.821 |
| 6 | С | carbon | 12.0096 | 12.0116 |
| 7 | N | nitrogen | 14.006 43 | 14.007 28 |
| 8 | 0 | oxygen | 15.999 03 | 15.999 77 |
| 12 | Mg | magnesium | 24.304 | 24.307 |
| 14 | Si | silicon | 28.084 | 28.086 |
| 16 | S | sulfur | 32.059 | 32.076 |
| 17 | Cl | chlorine | 35.446 | 35.457 |
| 18 | Ar | argon | 39.792 | 39.963 |
| 35 | Br | bromine | 79.901 | 79.907 |
| 81 | Tl | thallium | 204.382 | 204.385 |
| 82 | Pb | lead | 206.14 | 207.94 |

Table 1. List of Elements with Range of Atomic Weights.

(Source: Moss & Lide (2019) <<u>https://iupac.qmul.ac.uk/AtWt/</u>>).

Table 2: List of Elements with Fixed Atomic Weights.

| At | Symbol | Name | Atomic Wt |
|----|--------|------|-----------|
| No | | | |

| 4BeBeryllium9.012 1831(5)9FFluorine18.998 403 163(6)10NeNeon20.1797(6)11NaSodium22.989 769 28(2)13AlAluminium26.981 5384(3)15PPhosphorus30.973 761 998(5)19KPotassium39.0983(1)20CaCalcium40.078(4)21ScScandium47.867(1)23VVanadium50.9415(1)24CrChromium51.9961(6)25MnManganese54.938 043(2)26FeIron55.845(2) | |
|--|--|
| 10NeNeon20.1797(6)11NaSodium22.989 769 28(2)13AlAluminium26.981 5384(3)15PPhosphorus30.973 761 998(5)19KPotassium39.0983(1)20CaCalcium40.078(4)21ScScandium44.955 908(5)22TiTitanium47.867(1)23VVanadium50.9415(1)24CrChromium51.9961(6)25MnManganese54.938 043(2) | |
| 11NaSodium22.989 769 28(2)13AlAluminium26.981 5384(3)15PPhosphorus30.973 761 998(5)19KPotassium39.0983(1)20CaCalcium40.078(4)21ScScandium44.955 908(5)22TiTitanium47.867(1)23VVanadium50.9415(1)24CrChromium51.9961(6)25MnManganese54.938 043(2) | |
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| 15 P Phosphorus 30.973 761 998(5) 19 K Potassium 39.0983(1) 20 Ca Calcium 40.078(4) 21 Sc Scandium 44.955 908(5) 22 Ti Titanium 47.867(1) 23 V Vanadium 50.9415(1) 24 Cr Chromium 51.9961(6) 25 Mn Manganese 54.938 043(2) | |
| 19 K Potassium 39.0983(1) 20 Ca Calcium 40.078(4) 21 Sc Scandium 44.955 908(5) 22 Ti Titanium 47.867(1) 23 V Vanadium 50.9415(1) 24 Cr Chromium 51.9961(6) 25 Mn Manganese 54.938 043(2) | |
| 20 Ca Calcium 40.078(4) 21 Sc Scandium 44.955 908(5) 22 Ti Titanium 47.867(1) 23 V Vanadium 50.9415(1) 24 Cr Chromium 51.9961(6) 25 Mn Manganese 54.938 043(2) | |
| 21 Sc Scandium 44.955 908(5) 22 Ti Titanium 47.867(1) 23 V Vanadium 50.9415(1) 24 Cr Chromium 51.9961(6) 25 Mn Manganese 54.938 043(2) | |
| 22 Ti Titanium 47.867(1) 23 V Vanadium 50.9415(1) 24 Cr Chromium 51.9961(6) 25 Mn Manganese 54.938 043(2) | |
| 23 V Vanadium 50.9415(1) 24 Cr Chromium 51.9961(6) 25 Mn Manganese 54.938 043(2) | |
| 24 Cr Chromium 51.9961(6) 25 Mn Manganese 54.938 043(2) | |
| 25 Mn Manganese 54.938 043(2) | |
| | |
| 26 Fe Iron 55.845(2) | |
| | |
| 27 Co Cobalt 58.933 194(3) | |
| 28 Ni Nickel 58.6934(4) | |
| 29 Cu Copper 63.546(3) | |
| 30 Zn Zinc 65.38(2) | |
| 31 Ga Gallium 69.723(1) | |
| 32 Ge Germanium 72.630(8) | |
| 33 As Arsenic 74.921 595(6) | |
| 34 Se Selenium 78.971(8) | |

(Source: Moss & Lide (2019) <<u>https://iupac.qmul.ac.uk/AtWt/</u>>).

When the authors studied the available energies in science; the authors found that the most closely related form of energy that relates to the inter-transmutable concept of energy and mass as pointed out by Einstein is the gamma rays. In 1900, French chemist Paul Villard (Lucas, 2015) observed the existence of gamma rays when he was investigating radiation from radium. The gamma rays are emitted by a nucleus in an excited state. The emission of gamma rays does not alter the number of protons and neutrons in the nucleus (Maghraby, 2017). Such emission shall be accompanied by a reduction in mass. This is fundamental to the atomic bomb. A large number of gamma ray's emissions were reported by Tore Straume (Straume, 1995) when atomic bombs happened at Hiroshima and Nagasaki.

Terrestrial Gamma-ray flashes were observed by scientists (Smith et al., 2005) from the earth's upper atmosphere. They were initially found out that when cosmic rays particles (mostly protons) that arrive at the top of the earth's atmosphere collide with thunderclouds shall emit gamma-ray flashes. In their further report (Dwyer & Smith, 2012), they found that even though thunderclouds were not in sight, they detected gamma-ray flashes in the middle of the Sahara Dessert. They pointed out that gamma-ray flashes can be produced when there are charged particles such as electrons. Dwyer and Smith (Dwyer & Smith, 2012) did not put in conclusion the reason gamma-ray flashes can be produced when charged particles such as electrons are present. They claimed surprise for two and a half centuries scientists still have an incomplete understanding not only of how thunderclouds make gamma rays but even of how they make simple lightning.

3. Methodology

The experimental work reported in this paper is a continuous experiment reported in the authors' previous publication entitled "Production of Oxygen from Aqueous Water using the Principle of Induced Current" (Low et al., 2022). The details of the experimental work will not be discussed; however, the steps of the work are summarised below:

- a) Preparation of magnetite powder and container fed with magnetite powder. This aimed to prepare a magnetic field for the experiment. Detailed information can be referred to the authors' previous work (Low et al., 2022).
- b) Preparation of instruments essential for testing of properties of oxygen, i.e. the dissolved oxygen meter and ORP meter. Detailed information can be referred to the authors' previous work (Low et al., 2022).
- c) Preparation of water filtration system. This aimed to prepare a water source with low dissolved oxygen content. Detailed information can be referred to the authors' previous work (Low et al., 2022).
- d) Repeat experiments for more than 10 cycles which were reported in the authors' previous work (Low et al., 2022).
- e) Perform analysis of experimental data for more than 10 cycles of oxygenation experiment to determine the difference in the properties of oxygen.
- f) Perform analysis of the analyzed data, based on Einstein's special relativity theory.
- g) To propose linkages between the properties of oxygen, Einstein's special relativity theory, and the terrestrial gamma ray's flashes.

4. The Magneto Synthesis Process and Its Mechanism

The authors in their previous work (Low et al., 2022) had discussed this mechanism where oxygen can be free off from aqueous water during the magneto synthesis process. This magneto synthesis process was proven to work (Low et al., 2022), however, the authors found that apart from oxygen can be free off from aqueous water, there could be more happening to the dissociation of oxygen because the properties of the oxygen free-off from aqueous water showed different than that of the oxygen collectively in the ambient air.

One may consider when x mole of the electron can be produced from the principle of induced current, the overall dissociation equilibrium of the water during the magneto synthesis process can be represented by the following equation: -

$$H_2O_{(aq)} \rightleftharpoons x \stackrel{H^+}{\underset{\sim}{\vdots}}_{(aq)} + (1 - x) H^+ + OH^-$$
Eq. 1

When the hydroxyl ions became excessive to the water system; the above equation can be written as: -

H₂O (aq)
$$\rightleftharpoons x (H^+)_{(aq)} (aq) + (1-x) H^+ + x OH^- + (1-x) OH^-$$

Eq. 2

Hence x mole of OH⁻ is excessive to the original water system. According to Le Chatelier's principle, the excessive OH⁻ is forced to be dissociated according to:-

$$40H^{-}_{(aq)} \rightarrow 2H_{2}O_{(aq)} + O_{2(g)} + 4e^{-}$$

Eq. 3

These equations implied that x mole of OH⁻ will produce $\frac{x}{4}$ mole of oxygen molecules, however, when these equations are combined, the variable x can be omitted. The overall equilibrium of water during the magnetosynthesis process can be written as:

2H₂O
$$\xrightarrow{\text{4 e-}}$$
 $O_{2 (g)} + 4 \xrightarrow{H^+}$ (aq)

Eq. 4

Eq. 4 is a very important equation; it implied the following matters:

- a) When 4e⁻ can be produced by the principle of induced current and can be captured by the water,
 Eq. 4 could take place. However, the capture of e⁻ by water does not happen at all times; its dependency is not known at the time moment.
- b) When the capture of e⁻ took place, every 4e⁻ can trigger 2 molecules of water to dissociate one molecule of oxygen. This shall coproduce 4 pairs of hydrogen-electron pairs.

- c) Two pairs of hydrogen-electron pairs were initially thought to combine to form a molecule of hydrogen gas consisting of 2 atoms of hydrogen and they share 2e⁻ at their valence shell. However, the authors experimented by using a hydrogen meter to try to detect hydrogen production, but the result was not detected. Hence, the conversion of hydrogen-electron pairs in aqueous water to produce hydrogen gas is not yet successful. Such conversion perhaps can be assisted by other additives in the water.
- d) Since the detection of hydrogen gas was not positive; perhaps the hydrogen-electron pairs can exist in the following manners,
 - i. The hydrogen-electron pairs will be dissociated. Such dissociation is followed by electron discharge (perhaps this is the reason for lightning) and the dissociated hydrogen ions (proton) cause the water to turn acidic (reason distilled water or rainwater is acidic) (Kanokvalai et al., 2013; Khoon et al., 2011; Low et al., 2022). It is felt likely that such dissociation will only be triggered whenever there is a process where energy (any form of energy) is utilized, during energy utilization, electrons paired to hydrogen will be broken off and to be utilized by the process. Common processes in the discussion are lightning where massive electrons are pulled down to earth. Another process is the condensation of steam to make distilled water, where energy is to be absorbed to condense the steam.
 - ii. In the case there is no process where energy is utilized the hydrogen-electron pairs are thought to continue to exist in the aqueous water. However, when electrons continue to be produced by the magnetic field, these electrons are affinitive to the positively charge hydrogen ions although the ion is already paired with one electron. The authors felt likely that such collision is possible due to the mass of the proton (hydrogen ion) being 1836 times the mass of an electron (NIST, 2019). Such collision to the hydrogen-electron pair will be able to produce gamma-ray flashes as proposed in Section 5.3.

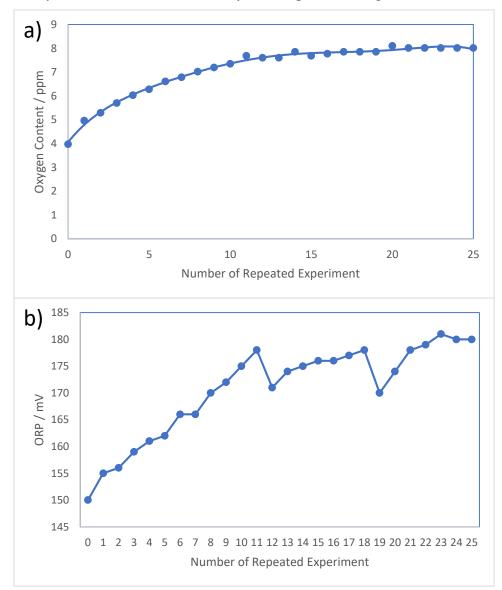
5. Results

The authors presented the results for the production of oxygen from aqueous water in their previous paper (Low et al., 2022). These results are for 10 cycles of water flowing through the magnetic field. The authors confirmed oxygen production each time aqueous water was flowing through the magnetic field.

In the subsequent sections, the authors observed that when the number of cycles increases by more than 10 cycles, the content of oxygen that can be produced may exceed the saturation point. The study of the properties of oxygen can be done when the oxygen produced from water started to mix with the oxygen from the atmosphere when the saturation point is approaching.

5.1. Results: Multi-Cyclical Oxygenation Experiment Approaching Saturation Point

Previous experiments (Low et al., 2022) were performed for just 10 oxygenation cycles. In this paper, the authors continued the experiment to 25 cycles of oxygenation events. The entire 25 cycles took about four hours to complete; this includes the measurements of DO and ORP of each cycle. The results of these 25 cycles are plotted in Figure 1.



(Figure 1: Variations of (a) DO and (b) ORP with several repeated experiments) (Source: Data Collected from the Experiment)

The sample of water that was exposed to the air (without any magnetic treatment) for 4 hours recorded an increment of oxygen content from 3.97 to 5.7 ppm, whereas the ORP increases from 150 to 173 mV. During these 4 hours, the same water source (control sample) was undergone 25 cycles of oxygenation treatment using a magnetic field. All oxygen contents in each cycle are continuously increased until they reached saturation at 8.01 ppm when the experiment progressed to the 21st cycle. Further cycles did not show further increment in DO or oxygen content; hence, saturation point was reached. However, the ORP increment has a single steep-drop-like stair at the 11th to 12th cycles. The increment showed a continuous trend until it reached another single steep drop in the 18th to 19th cycle.

The result obtained in this multi-cyclical experiment confirmed the findings In Section 4.0. The multi-cyclical experiment has once again confirmed the oxygenation mechanism in Section 3.0. In this multi-cyclical experiment, the authors are in the purpose is to study the oxygenation in more cycles so that the phenomenon of oxygenation during the saturation of dissolved oxygen in the aqueous water can be studied. Some unexpected observations occurred in the period before, during, and after the saturation of oxygen dissolution in the water. The steep-drop characteristic of the curve drawn in Figure 1(b) is not coincident and it carried a lot of information for discussion in the following sections.

6. Discussions

The observations in the multicycle oxygenation experiments up to the saturation dissolved oxygen point in the aqueous water revealed that the oxygen produced by the magneto synthesis process possessed different properties from the oxygen normally available in the atmospheric air. The authors observed that the oxidative power of the oxygen produced from the magneto synthesis process is higher and this is a surprise to find in modern science. These sections are discussed in detail the effect of this finding for future investigation and development in many new branches of science.

6.1. Discussion:

6.1.1. The Oxidative Power and Its Relationship to Einstein's Special Relativity Theory

When a molecule of oxygen is used to oxidize a substance, its partial equation of oxidation can be written as:

$$O_2 \rightarrow 2O^{2-} - 4e^{-}$$

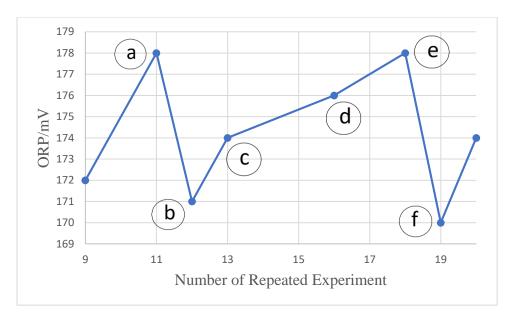
Eq. 5

In this partial equation, 4 electronic energy shall be released by one oxygen molecule as according to Eq. 5 and it is used to oxidize substances in the aqueous water and is measured by the ORP meter as the ORP values. The positive sign of the ORP values denotes oxidation occurred. The continuous increment in ORP up to the first steep drop which occurred at the 11th to 12th cycles indicated that more production of oxygen contributed to higher values of ORP at each cycle. The steep-drop characteristic of this experiment indicated a drastic drop in ORP while the number of oxygen molecules continues to increase. This is anticipated that a sufficient amount of oxygen atoms that carry low oxidative energy than normally produced oxygen atoms from the oxygenation mechanism has appeared. Such appearance is extraordinary!

The steep-drop characteristic is thought to occur when massive desorption of oxygen atoms (produced from the oxygenation mechanism) happened due to the inability of the water matrix to hold the sufficiently large amount of dissolved oxygen. This inability occurs when the dissolution equilibrium between oxygen molecules in the air and the water matrix has reached the equilibrium constant. This shall occur when the system reaches a saturation state. At this state, when massive desorption of oxygen outflow to the air, there shall be a net inflow of oxygen molecules from the air to occupy some of the vacancies in the water matrix. This conclusion is made based on the Newton Third Law that the outgoing trust must be the same as the in-flowing trust. Therefore, the net inflow of oxygen molecules from the atmosphere (oxygen not from the oxygenation mechanism) is thought to carry low oxidative power that contributes to the sharp drop in the ORP values. It was thought that immediately after the single steep drop occurred, the dissolution equilibrium has been shifted lower due to the in-flow of oxygen molecules of the type of lower oxidative power. Such assumption shall not be logical in the case both types of oxygen carried the same mass. Such an assumption can be made logically in the case the in-flow oxygen carried a lighter mass compare to those of out-flow oxygen. When the in-flow atoms of oxygen carried a lighter mass, there shall appear more or extra spaces to accommodate new oxygen atoms that could be produced from further magnetosynthesis processes in the future experiment. Hence, further cycles showed a continuous increase of ORP until the next single steep-drop characteristic occurred. This is because when the oxygenation experiment continues to the next cycle, that newly produced oxygen can be absorbed but not desorption and it was observed similarly in the subsequence few cycles. The same phenomenon continues to the second single steep-drop point and continues to more steep-drop points until the grand saturation of oxygen dissolution in water

can be achieved. In this experiment, the grand saturation of dissolved oxygen was recorded to be 97% (8.01 ppm) as in Figure 1(a).

To explain the above observation in detail, the authors sketch the single steep-drop concentration in Figure 2 and illustrate for an explanation below:



(Figure 2: The graph of ORP against the Number of repeated experiments from 9 to 20.) (Source: Data collected from the experiment)

<u>At point a</u>: The aqueous water system attained equilibrium saturation level.

<u>At point b</u>: Excessive oxygen produced from the magnetosynthesis process released to the atmosphere due to the aqueous water system has exceeded saturation. At the same time, oxygen from the atmospheric air entered the aqueous water system due to Newton's Third Law.

When points b, c, d, and e are on a rising trend: The rising trend indicated oxygen produced from the magneto synthesis process could accommodate or absorb in the aqueous water system. This is evidence that more "place" available in the aqueous water system has occurred so that newly produced oxygen from the magneto synthesis process can be absorbed. The appearance of a "new place" is extraordinary and this is the evidence those oxygen entered from the atmospheric air as explained in Point b possessed a smaller size or lighter mass. When examining the periodic table, evidence of higher mass oxygen does exist. Hence lighter mass oxygen was present in the air and they present in the majority quantity so that those entering aqueous water systems are lighter mass.

<u>At points e and f</u>: A second equilibrium saturation level was attained and the second single steep-drop cycle commenced.

6.2. Discussion

6.2.1. The Einstein's Special Relativity Theory on Energy and Mass Inter-permutable

The authors have pointed out the evidence that oxygen produced from the magneto synthesis process possessed higher oxidative power and heavier mass when compared to common oxygen from the atmospheric air, perhaps the majority is produced from the photosynthesis process. From Eq. 5, it is obvious that when the oxygen possessed a heavier mass, the oxidative power that could be contributed by the oxygen would be higher. Hence, conclusion 5.1 was made. When the mass of an atom is concerned, the only reason the atom could gain heavier mass should point to Einstein's Special Relativity Theory. However, Einstein did not mention the method of how the nucleus of an atom can transmute to heavier mass when energy is absorbed. The authors studied the prior art, as in the literature review, it was revealed that when a nucleus is decayed, gamma rays could be produced. Since the mass and the energy obeyed the principle of conversion, on the other hand, it can be proposed that when a nucleus received gamma rays, the nucleus could gain mass. The existence of gamma rays in aqueous water must have appeared so that the oxygen when produced by aqueous water using the magneto synthesis process could gain heavier mass when compared to photosynthesis. Such a proposal by the authors is important to science and shall be a breakthrough in the present materials science for advanced material processing. The problem now is; why there are gamma rays!

6.3. Discussion

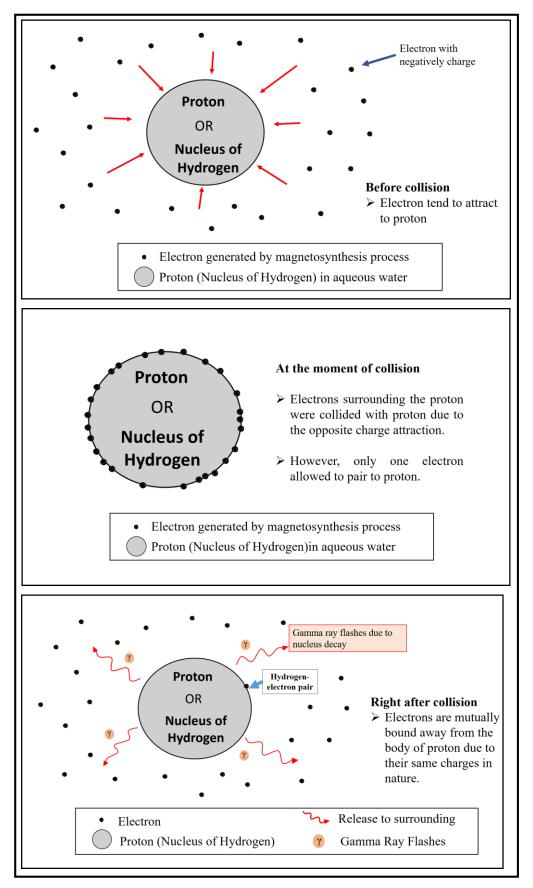
6.3.1. The Proposal on Gamma Rays Production to Cause Heavier Mass and Higher Oxidative Power of Oxygen Production

It is well known that gamma rays can be produced when a nucleus is decayed. It is no doubt that in this case, the authors could point out nucleus decay happens, and gamma rays must have been produced. The secret hides in the hydrogen-electron pairs that the authors have proved their formation and such formation led to the production of oxygen as reported in Section 4.0. The authors pointed out that all the facts reported in this paper started with the principle of induced current. In this principle, a massive amount of electrons could be generated; including the one paired to the proton; however, still much more than the single one that is paired to the proton.

The clue to the production of gamma rays as a result of nucleus decay lies in the size or the mass of the proton. The mass of a proton is indeed 1836 times the mass of an electron. As a result of the mass being tremendously bigger than an electron, at the moment those

electrons when adhering to the proton must not only be a single electron, rather they are a lot! Perhaps 100 electrons adhere to one proton at a moment, in the next moment, when hydrogen (proton) - electron pair formed, the excessed 99 electrons shall be expelled away from the body of proton as a result of those electrons are carried the same negative charge. The said proton is a hydrogen ion and it is the nucleus of the hydrogen. Before those electrons are expelled away from the body of the proton, those electrons and the proton are the constituents of the nucleus of hydrogen; hence when those electrons are leaving the proton, the nucleus decay phenomenon appeared. Those electrons when leaving the nucleus produced gamma rays; either those electrons permutated to be gamma ray's energy or fresh gamma rays could be produced. Hence, many scientists discovered terrestrial gamma-ray flashes in the air [Doğru et al., 2005; Dwyer & Smith, 2012] when electrons are also present. The authors have graphically illustrated the above proposed gamma-ray flashes production mechanism in Figure 3.

The authors felt likely that when the hydrogen-electron pairs are formed, and in this case, the induced current continues, more electrons are possible to adhere to the proton due to its size being huge compared to the electron. Collision of the electron could continue to occur to adhere to the hydrogen-electron pair due to the huge size difference. Such adherence to proton followed by rebound could happen several times until an equilibrium is achieved. In this method, the production of gamma-ray flashes is continuous so long as the electron can be obtained from the principle of induced current.



(Figure 3: Graphical illustration for proposed production of gamma-ray flashes by magneto synthesis process)

(**Source:** *Self sketching*)

7. Conclusions

When aqueous water is flown through magnetic fields, the aqueous water shall be dissociated to produce oxygen molecules and hydrogen-electron pairs. The authors observed the equilibrium of the oxygen dissolved in the aqueous water when closed to saturation, it is concluded that the properties of the oxygen produced by the magneto synthesis process possessed properties different than those available in the atmospheric air. The authors concluded the properties of the oxygen produced from magneto synthesis are different than those of photosynthesis. It is anticipated the majority of the oxygen in the atmospheric air is contributed by the photosynthesis process. In this context, the oxidative power and the mass of the oxygen produced from the magneto synthesis process are higher and heavier than those from photosynthesis. In this relationship, the authors discovered that not only oxygen and hydrogen-electron pairs are produced by the magneto synthesis process, but gamma-ray flashes are also produced.

Gamma rays are widely known to be produced when a nucleus is decayed. It is also well-known that protons are the nucleus of hydrogen. As a result of the principle of induced current could produce a massive amount of electrons, the authors thought that when the hydrogen-electron pairs are formed, the hydrogen ions or the protons shall expel those extra electrons that were previously adhered to their bodies. Such expulsion is the same as the decay of a nucleus because electrons are leaving the nucleus of hydrogen (proton). Hence, gammaray flashes are produced.

The authors also thought that for Einstein's Special Relativity Theory to take place, gamma rays are the clue to the inter-permutable role of mass and energy. When the mass permutates to energy, gamma rays will be produced, and vice versa. Hence, when gamma-ray flashes are produced by the hydrogen-electron pairs, the oxygen when received the gamma-ray flashes, the oxygen gains mass. This is the reason for the difference in properties when oxygen is produced from magnetosynthesis compared to those produced from photosynthesis.

8. Future Work

The outcome of this project revealed the production of oxygen from the aqueous water. At the same time when the oxygen dissociation process takes place, gamma-ray flashes shall also be produced too. This is a new discovery and those processes shall be the

backbone of much future work and thus a new branch of science is formed. The theory of gamma-ray flashes production is the clue to breakthroughs in many existing technologies. The authors in this section outline two examples of future work; however, those future works that can be derived are unlimited.

8.1. The Power-up of Biofuel

Table 1 in section 1 reported fourteen kinds of elements; their atomic mass could have existed in a range. Such variation is not coincident and their existence shall bring an important impact on their properties. Since H, O, C and N have commonly constituted all living things, inclusive of biofuel, when these atoms absorb gamma-ray flashes, they can be permuted to higher mass. When their higher mass is made, their calorific value shall be increased.

The authors have performed preliminary experiments by using fuel oil made from used tires pyrolysis process. Initially, 10% water adds to fuel oil follow by high-speed stir-mixing for 2 minutes, this oil mixture was subjected to a few cycles of magnetosynthesis. The authors were surprised to find that their calorific value increased about 1% each cycle. The authors have not completed these experiments and a report shall be produced once those experiments are done.

8.2. In-Situ Increment of Oxygen in Human Body for Treatment of Hypoxia and Anoxia Diseases

It is well reported by Bertout et. al., 2008, that many kinds of diseases in the human body are caused by insufficient content of oxygen in human tissues. When they are below 2% oxygen, they will be called "hypoxia tissues" and they will cause diseases such as stroke, tissue ischemia, inflammation, and growth of solid tumors. However, when human tissues are below 0.02% oxygen content, they are called "anoxia tissues" and they will cause the growth of cancer cells as well as tumor recurrence. In this context, in the case of the sick human tissues can create oxygen themselves using the principle of magnetosynthesis, such sickness can be removed.

Based on these concepts, the authors applied magneto synthesis to a patient name Mr. Lee Peng Cheng with his Malaysian identity card number 570509085609. Mr. Lee alleged he has been diagnosed with right eye cancer and glaucoma. Mr. Lee himself did not want to receive existing medical treatment because of his reasons. The authors had applied magneto synthesis treatment to his right eye for about one month. It was as expected his right eye has returned to good eye-sight. This preliminary case has shown that in-situ increment of oxygen in human tissue is working and this is attributed to the human tissues having stored inner water.

When the aqueous water is subjected to magneto synthesis, oxygen can be free off causing the tissues to return to a healthy state.

9. Declaration

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