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WRONG MODEL OF PHOTON

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***Abstract-* The presenting and presented experimental evidences confirm that the model of a photon is completely wrong. The photon gel clearly represents that light matter consists of tangible solid and gel matter. The energy property of light matter was convinced from a number of evidences such as the energy distribution similar to that of the typical electrons, large aggregates of light matter, and the transfer of light matter energy to the negative surface plasmon carriers. The energy-dispersive X-ray spectroscopy measurements revealed that light matter was composed of carbon (C) and two transition metals, tantalum (Ta) and rhenium (Re) as well as oxygen (O). Of them, it is found largely composed of C and Ta. The C element was greatest in both weight and atomic fractions. Another dark matter imaged was predominated by C while including other various elements (O, Na, Cl, S, and K). The light and dark matter matched to the electron orbit and ion respectively led to a new atomic structure composed of a nucleus, electron orbits, and the remaining spaces with different chemical elements. The sticky matter biding the other matter is identified as the entity of the entanglement principle of quantum mechanics.**

Keywords - The Sun light; Photon; Gel; Positive Energy; Model; Matter; Positrons; Quantum Mechanics; Atomic Structure; Plasma

I. INTRODUCTION

A theoretical photon has long been defined as an elementary particle with no mass and charge. However, the released images of photons directly collected from the Sun [1-3] clearly indicated that the current photon model is completely wrong. From the images, it is revealed that the photon has a shape and mass. Moreover, the entity of the photon was found to be composed of two types of solid and gel matter [1-3]. The energy property of light matter was convinced by the large fused solid light matter [1-2] and energy distributions of the matter of the Sun [2] and laser light [4] consistent with the measured typical electron distribution [5]. The proposed atomic model [6] argued that the electron orbits of the atom are the only source for the tangible light matter.

This work aims to point out the unreasonable definition of the photon of light by presenting tangible images of Sun photons, analyzing their energy orbit structures, and measuring their chemical elements.

II. EXPERIMENTAL OBSERVATIONS

Case I: Fig. 1 shows the image of the matter comprising the light of the Sun [7]. The light matter were collected on a wafer and their image was photographed with an optical microscope with a magnification rate of 500. The scale bar included in Fig. 1 represents 200 ㎛. The white matter represents the solid matter reflecting the incident white light and the blue matter binding them is a gel type matter. The gel matter bonding the solid one was once termed "photon gel" [8]. The initial matter state of the photon gel before it is dried on the earth is certainly plasma state. In other words, the elements involved in the photon gel exist as a conductive, gaseous matter state.

Fig. 2 shows a distribution of pixels composing the image of Fig. 1 in view of the grayscale and pixel sum. Here, the grayscale of a pixel is assumed to be the energy of a particle composing light matter. The pixel sum is just the sum of the pixels with the same grayscale. The assumption has been successfully used to identify certain correlations between the pixel distributions and emitted light intensity and ion density in various plasmas measured with the optical emission spectroscopy and langmuir probe, respectively [9-11]. These correlations were enabled by the interactions between the charged plasma particles and the positive laser light energy. The two distributions appearing in Fig. 2 each represent the dark matter on the wafer and light matter, respectively. The shape of the latter distribution is exactly identical to that of the reported Sun light matter [2], but symmetric to the typical electron energy distribution [5].

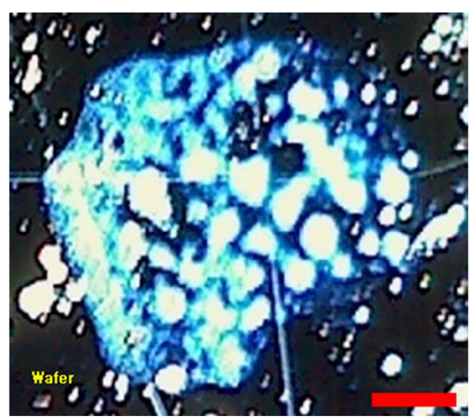

Fig. 1. Matter of Sun light, courtesy of HongReung Science Publishing Co. [7]

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Definitely, it is known that the types of the electrons are different as evidenced by the drastically different matter colors. The gel and solid matter of Fig. 1 are found to have two separate grayscale ranges of 111-223 and 224-240 in Fig. 2, respectively. As the electrons belonging to the former range is presumed to represent the negative electrons, those included in the latter one may match the positron [12] typically observed during the laser experiments [13-15]. In other words, the solid and gel matter are likely comprised of the positrons and electrons, respectively. The existence of the positrons is supported by the noted symmetry with respect to the electron energy distribution.

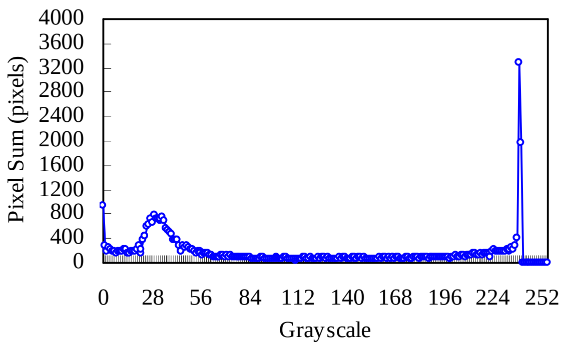

Fig. 2. Energy distributions of light matter

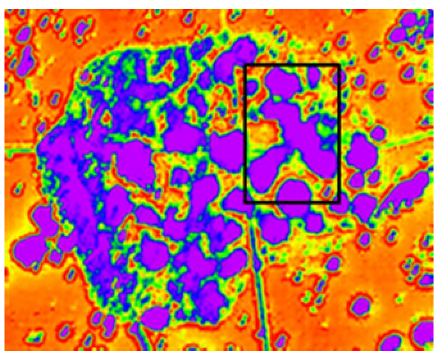

Fig. 3. Colored version of Fig. 1

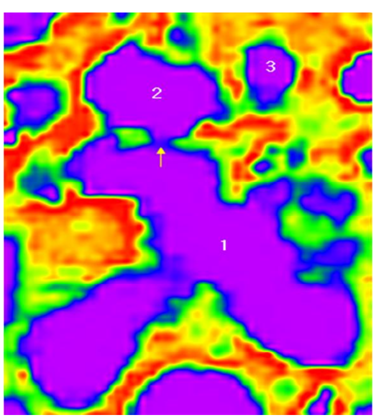

Fig. 4. Linked light matter

Fig. 3 shows the image of Fig. 1 converted into the colored version using the developed software. A region marked in Fig. 3 was separated and magnified. The result (Fig. 4) shows large light matter interconnected together. The solid matter (1) is linked to another one (2) through the blue gel matter as pointed by the white arrow. The solid matter (3) is connected to the matter (2) through the green gel matter. In fact, the green gel matter surround all the solid matter associated. As the additional material, a very long photon gel is prepared in Fig. 5. The scale bar represents 300 ㎛. The white and blue matter represent the solid and gel matter, respectively. This is exactly identical to that noted in Fig. 1.

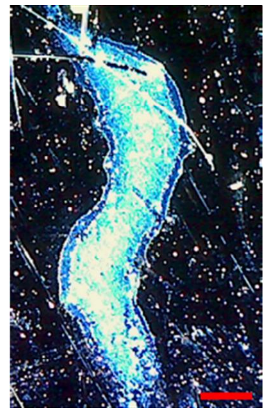

Fig. 5 Photon gel

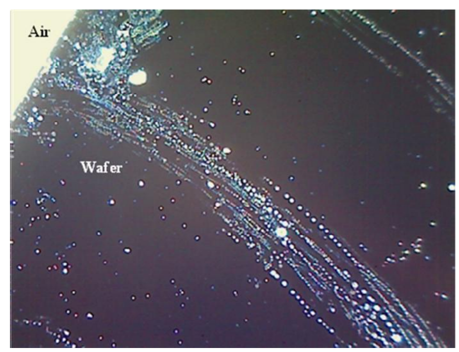

Fig. 6 Arrangement of light matter of the Sun

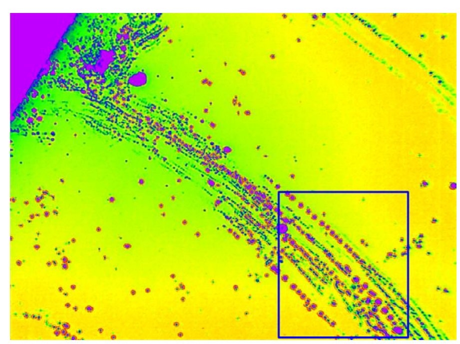

Fig. 7 Colored version of Fig. 7

Case II: Fig. 6 shows a photon gel incident upon the edge of a wafer. Fig. 7 is the colored version of Fig. 6. After the incidence, the sold and gel mater composing the photon gel seem to travel through the wafter surface. The region marked in Fig. 7 is more detailed in Fig. 8. The seven regions marked in Fig. 8 are individually examined with their magnified views. For convenience, the region and matter are abbreviated as “R” and “M”, respectively. The matter distributed in the four Rs (1~4) are shown in Fig. 9. A structure of light matter in the energy is illustrated in R1 of Fig. 9. A total of 5 matter energies are distinguishable as numbered from 1 to 5. The pink solid M1 is surrounded by the blue gel M2, subsequently enclosed by the green M3 of the same gel type. As noted earlier for the light matter of the Sun [2] and laser [16], the multiple pink M1s are linked though the blue gel M2 and M3. The red M5 gathered around the light matter in R1 represents the surface plasmon carriers absorbing the positive light energy. The remaining yellow R4 appears to act as the boundary between the M3 and M5. The M4 surrounding the M5 indicates that the M5 was initially hit by the M3 of light matter. Those multiple M5s linked through the M4 becomes the evidence confirming that the surface plasmon carriers are electrically negative.

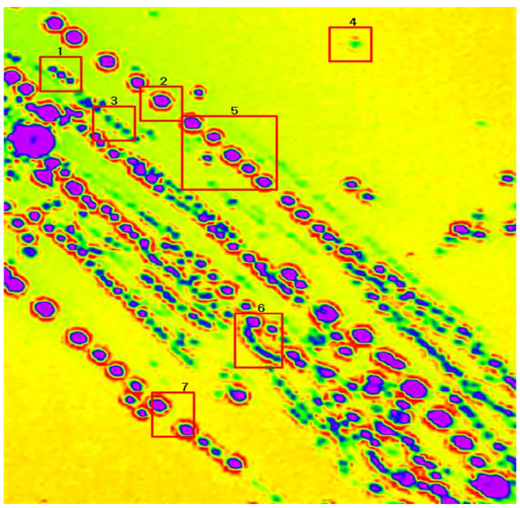

Fig. 8. Magnified region

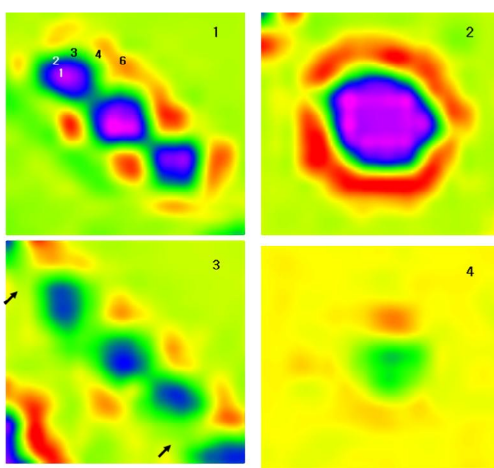

Fig. 9. Interactions between the light matter and surface plasmon carriers

In R2 of Fig. 9, M5 appears to circle the light matter and is isolated from others by M3. In R3, all the blue M2s are surrounded by the green M3. As indicated with the two arrows, the links between them seemingly separated are apparent as evidenced by those less green colored M3. As stressed many times through the work [2], this confirms that the light matter are interconnected together. R4 of Fig. 9 shows a few M5 around the green M3 containing dim blue R2. The less reddish M5 unlike those shown in R2 is suspected to be due to the less positive energy of M3.

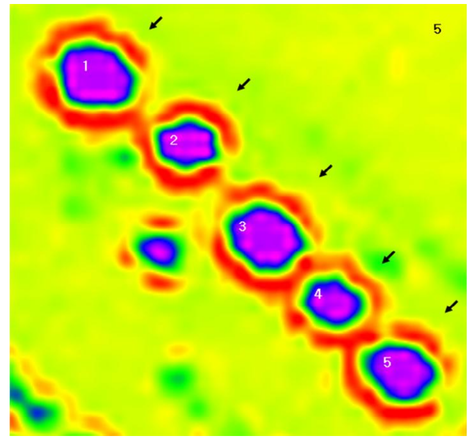

Fig. 10 Arrangement of light matter

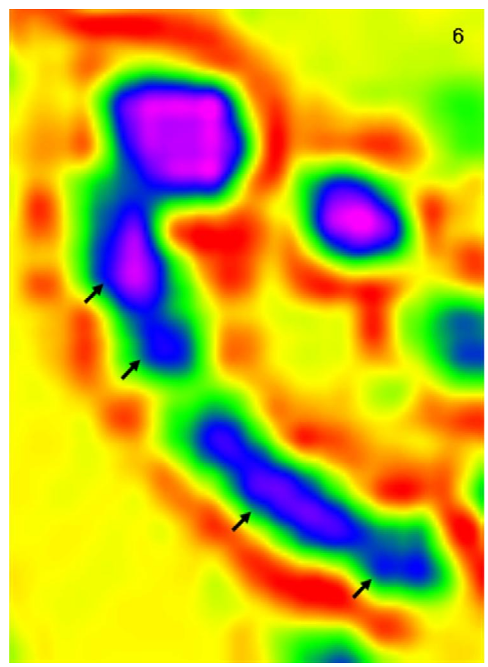

Fig. 11 Large light matter leaving its components

Fig. 10 shows 5 light matter contained in R6 as numbered from 1 to 5. Each light matter is surrounded by the red M5, absorbing the positive energy delivered from the green M3 marked with the arrow. The negative surface plasmon carriers are clear by their continuous links typical of the electricity. The isolation of M5 by M4 as noted in Fig. 9 is evident. As stated earlier, the isolation indicates that the M5 was hit by the M3. Therefore, the continuity between the five light matter in Fig. 10 is still kept. The individual 5 light matter match the pieces of electron orbits escaping the atom as stated in the atomic model [6].

The continuity is more evident in a large light matter in R6 (Fig. 11), leaving its components as pointed by the arrows. This shows that the large matter is a kind of a photon gel defined in the work [8]. Fig. 12 shows that the two light matter in R7 are interconnected by the green M3 as indicated by the blue arrows. The less red M5 pointed by the red arrows represent the surface plasmon carriers trapped by the green M3.

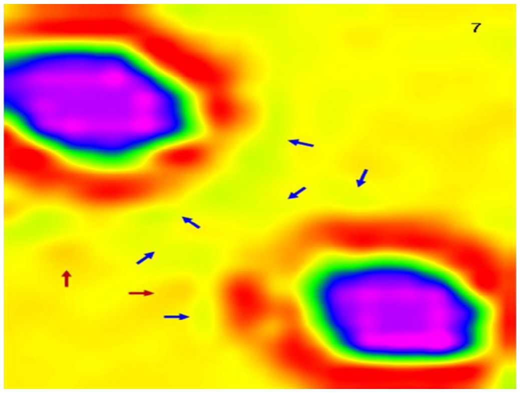

Fig. 12 Links between light matter

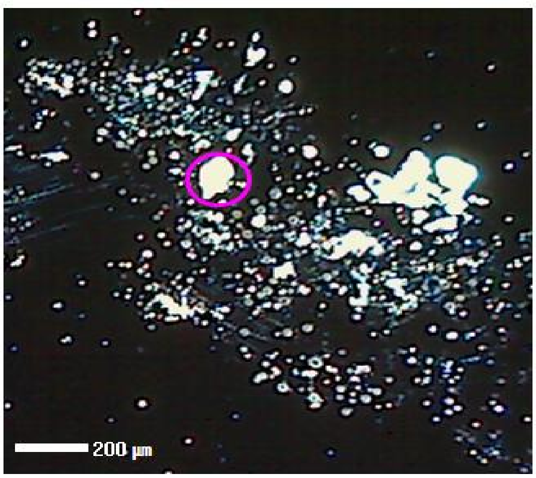

Fig. 13 A photon gel

Case III: Light matter of the Sun was collected on a p-type wafer. A photon gel [8] containing a number of photons of varying sizes is shown in Fig. 13. The dark regions represent the wafer substrate. The white matter represents the solid photons. A single solid matter contained in the pink circle is about 158 µm long and 104 µm wide. The distribution of pixels comprising Fig. 13 is shown in Fig. 14. The first distribution peaking at the 26 grayscale represent the energy distribution of surface plasmon carriers. The second distribution peaking at 240 grayscale matches that of light matter. The shape of the first distribution is exactly identical to that of the electrons measured in the plasma [5]. The other shape of the second distribution is symmetrical to the first one and identical to the reported one for another Sun matter [2] and for the laser photons [4]. Moreover, the grayscale range of the second distribution much greater than that of the first one. All these evidences mean that the second one represents another type of electrons with opposite charge, i.e., positrons.

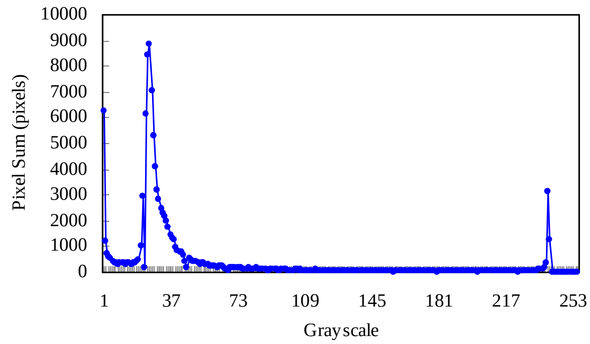

Fig. 14 Distributions of pixels

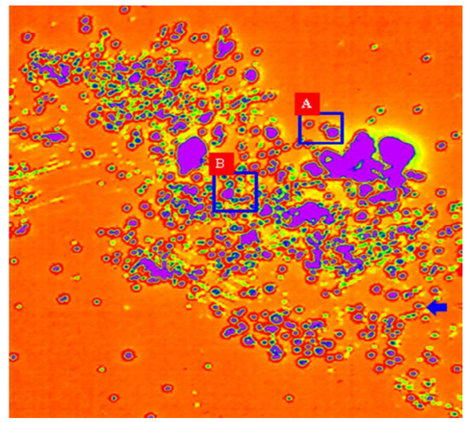

Fig. 15 Colored version of Fig. 1

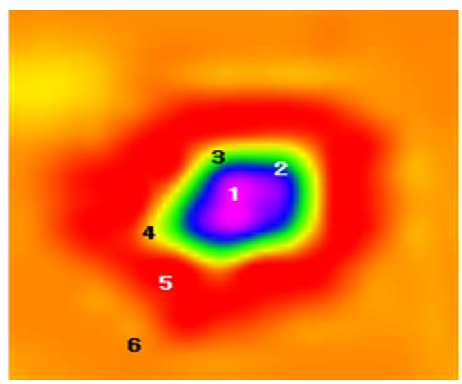

Fig. 16. Distributions of matter and particles around one single solid matter (M1)

To distinguish various matter and particles, a colored version of Fig. 13 was prepared in Fig. 15. The image of Fig. 16 matching the left matter contained in the box A of Fig. 15 clearly isolates matter and particles from one another as numbered from 1 to 6. The M6 clearly represents the wafer surface. The other 5 matter structure is the same as that noted in R1 of Fig. 9. The only difference is that only the interior of the red M5 is separated from M3 by M4. This implies that there was no or little incidence of light matter upon the M5. Therefore, the M5 is not isolated by the light matter, but gathers around it (M3) to absorb its positive energy. Under the energy structure of Fig. 16, the M4 acts as a place through which the M4 absorbs the positive light energy.

Fig. 17 shows the right matter contained in the box A of Fig. 15, which illustrates that the green M3 connects the two pink M1s comprising the top of the two matter, each enclosed by the blue M2. This confirms that the M3 belongs to the gel matter as the M2. The other structures of matter energies are the same as those noted in Fig. 16.

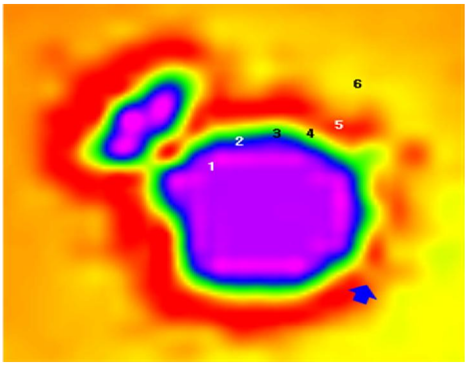

Fig. 17. Distributions of matter and particles around two individual solid matter

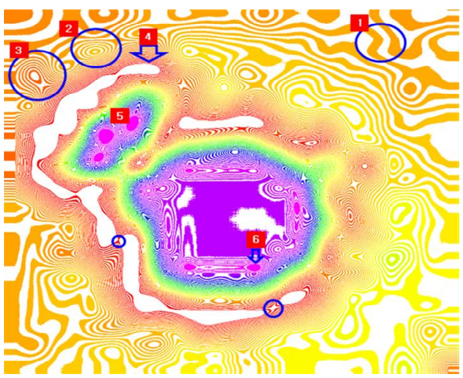

Fig. 18. Energy orbits

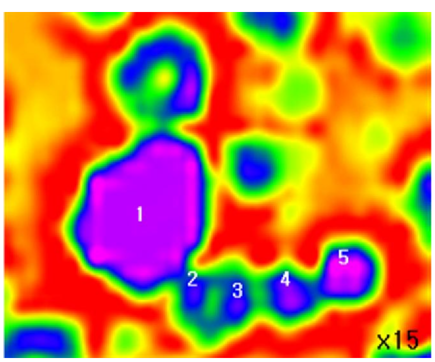

Fig. 19 A light matter leaving tiny matter

Fig. 18 shows the energy orbits drawn using the patented technique [17]. The shape of the orbits (1) is typical of the surface plasmon carriers. The orbit (2) is a matter trapped by the orbit (1). The number of orbits confined to the matter is 7. The existence of the dense confined orbits is typical of ions or atoms as extensively examined in the work [18]. Although the orbits are not closed, their total number confined to another matter (3) is 8. Similar number of confined orbits implies that the two matter may be the same type of matter. Evidently, the matter (3) is trapped by the dense orbits comprising the matter (4) in Fig. 18, matching the red surface plasmon carriers in Fig. 17. Besides the dense orbits, the matter (4) has several pieces inside of it as colored white in Fig. 18. Therefore, it is revealed that the surface plasmon carriers are composed of the white matter and red dense orbits. As referred to the negative plasmon, the two matter (2, 3) attached to it are then suspected to be positive in charge.

Fig. 19 shows the region contained in a box B of Fig. 15. A large matter (1) leaves 4 tiny light matter (2~5). It is clear that the blue matter (i.e. M2) connects all the five light matter. The energy structure of matter and particles involved in Fig. 19 are the same as that shown in Fig. 16.

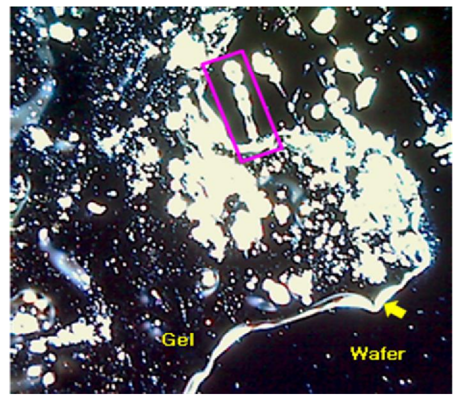

Fig. 20 Transparent photon gel

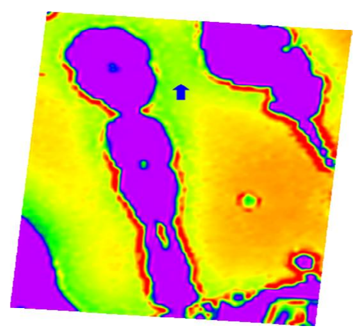

Fig. 21 Matter structure around edge

Case IV: Fig. 20 shows a photon gel. The gel is clearly separable from the wafer. The color of the region marked with “gel” is nearly the same as that of the wafer surface. This indicates that the thin layer made up of the gel matter is highly transparent. The light matter contained in the box seems to be suspended to the main body of the photon gel and this is convinced from Fig. 21. The suspension is enabled by the stretching property of the gel matter. The suspected ductility property is to be confirmed subsequently from the measurements of chemical elements of light matter. There are other light matter in the top right of Fig. 20 separated from the photon gel because of the strong collision impact exceeding the gel’s holding force. The arrow indicates the green gel matter linking the light matter concerned to another next one. Other supplementary images are presented in Figs. 22-24. Fig. 22 shows solid light matter tapped by the gel matter. The circled region illustrates a sub-photon gel escaping from the main one. Fig. 23 shows a big conglomerate of solid matter moving upward leaving several beams of tiny matter.

Fig. 22 A photon gel

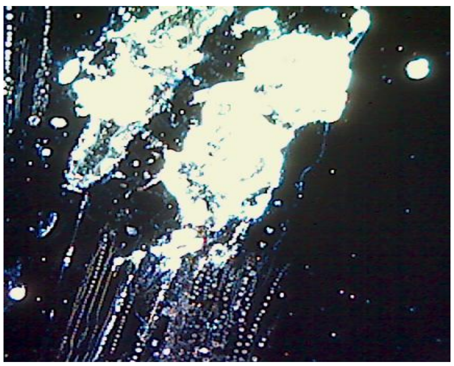

Fig. 23 Large light matter

Case V: The chemical elements of light matter were measured with the energy-dispersive X-ray spectroscopy (EDS, HITACHI:S-4700). The EDS was applied to a suspected electron orbit piece appearing on a sticky photon gel attached to a wafer as shown in Fig. 24. The yellow circle contains a solid, lustrous matter suspected to be part of an electron orbit. Its bright side marked by the red arrow illustrates that it reflects beams of electrons supplied from the electron gun. For the measurement, the X-ray was incident upon the point marked with "+" on the top of the matter. The elements initially measured were the carbon (C) and silicon (Si). As the other chemical elements contained in the periodic atomic table were individually checked, both tantalum (Ta) and rhenium (Re) were found to exist.

The weight (W)% measured with the XDS are 1.70, 84.34, 10.81, and 3.15% for the C, Si, Ta and Re, respectively. The other atomic (A) fractions of the respective elements are 4.40, 93.22, 1.85 and 0.52%. The greatest W and A% of the Si arise primarily from the use of the Si substrate, on which the light matter is placed. Due to this reason, the contribution of the Si is excluded. Then, the C is identified to be the most plentiful element composing the light matter. Of the two transition metals, the Ta is more than three times greater than the Re in both W and A%. Therefore, the light matter is largely composed of C and Ta. Meanwhile, other measurements conducted for similar type of light mater to be reported soon showed that another oxygen (O) element whose W and A% were much smaller than C was further measured. Considering all these observations, the light matter is regarded as a composite material comprising C, O, and two metallic Ta and Re. Absolutely, the measured matter property of the Sun light convinces that there is no need to convert light into matter as the ongoing effort [19].

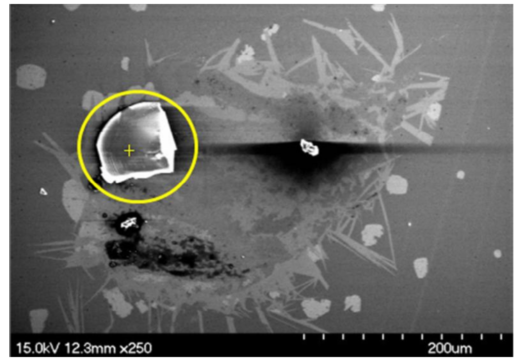

Fig. 24 A photon gel for XDS measurement

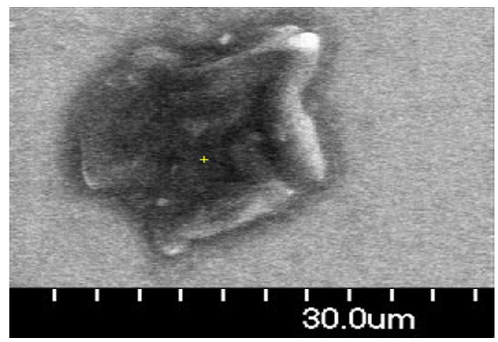

Fig. 25 Dark matter for XDS measurement

Fig. 25 shows a dark matter. Its EDS data in the A% reveals C 79.88%, O 5.63%, Na 0.10 %, Si 13.78 %, S 0.11%, Cl 0.07 %, K 0.06 %, Ta 0.30 %, and Re 0.06 %. Certainly, the dark matter is predominated by the C and next by O as the Si is excluded as before. It is noted that the 4 elements (C, O, Ta, and Re) are common to both light matter and dark matter. This suggests that both light and dark matter are closely associated with each other. The light matter was already matched to the electron orbit [6]. The dark matter is then matched to the ion. These matchings indicate that an atom decomposed into an ion and electrons during the ionization is essentially a matter comprised of a variety of chemical elements. Therefore, the EDS measurements and the proposed atomic model [6] lead to the suggestion of a new atomic model from the chemical element point of view. In other words, an atom is composed of a nucleus, electron orbits, and the other remaining spaces with different chemical compositions.

In the context of photosynthesis, both C and O identified as the light matter elements are significant because they match the CO_2 required for it. In other words, the CO_2 is supplied directly by the light matter, not from the air. This proves that the current definition of the photosynthesis is wrong. The other required light energy is also offered by the light matter possessing the electromagnetic energy. The wrong photosynthesis model is the direct result of the wrong photon model.

Another photoelectric effect [20] is also able to be easily explained by the energy property of light matter. In fact, it has nothing to do with the emission of electrons of a metal plate. It is just interactions between the negative surface plasmon carriers on both plates and matter of laser light that is reflected from one plate and reaches the other one. As the light matter possessing an electromagnetic energy is considered, there is no doubt at least that the present model basing on chargeless photon is wrong. The reinterpretation of the photoelectric effect would be made in a subsequent paper.

As noted in the energy distribution as that of Fig. 14, the positrons have varying energy states as the negative electrons [4]. This means that the positron can have more than two energy states at the same time. As illustrated in Fig. 14, it can have at least 4 energy states corresponding to the 4 grayscales from 237 to 240. The positron of possessing multiple energy states well represents the "superposition principle" of quantum mechanics. The other principle is the "entanglement" saying that multiple particles are linked together despite they exist separately. How can this happen? As demonstrated from a number of photon gels, the solid matter of light is bounded by its gel matter. Therefore, the gel matter is identified to be the right matter that enables the entanglement of particles in the quantum mechanics. Furthermore, the gel matter becomes the right entity matching the local hidden variable of the Einstein-Podolsky-Rosen Paradox [21], with which Einstein struggled to prove the incompleteness of the quantum mechanics. Definitely, it is a wrong hypothesis in the light quanta theory that photons (light matter here) are separated in space.

Meanwhile, the Bohr model [22] attempted to explain light emission process with the quantum electron jump. The invalidity of this hypothesis was already detailed in the proposed electronic structure of the atom [6]. Absolutely, the negative electron is unable to emit positive light matter much larger and heavier than it.

The presented images played a critical role in clarifying various matter properties of photons of light. Other materials to be reported are nano-sized solid matter, 3-D structure of electron orbit, and more data regarding the chemical elements of light matter [23-26].

III. CONCLUSIONS

This work presented images of several photon gels. Each photon gel was composed of solid and gel matter. Certainly, the matter state of a photon gel as it escapes the Sun is in plasma, a gaseous conducting state composed of melted elements. The existence of visible, tangible matter definitely invalidates the present model of a massless photon of light. The energy property of light matter was also convinced by the large fused solid matter, energy distributions, and absorption of hot electron energy by the negative surface plasmon carriers. The energy distributions indicated that the light matter contains both positrons and electron. Detailed connections between the light matter elements and electromagnetic energies or two types of electrons are to be reported. All these evidences verify the present model of photon is completely wrong while validating the severe criticisms [27]. Meanwhile, the photon gel becomes the definite evidence supporting the incompleteness of the quantum mechanics. As illustrated, the solid photons were bound by the transparent gel matter. This is in contrast to the quantum mechanical perception that the photons (matching the solid matter) are separated from one another.

Light matter and dark matter were matched to the electron orbit and ion, produced from the ionization of the atoms comprising the Sun. Moreover, the measurements played a critical role to realizing that an atom is composed of a variety of chemical elements. This eventually led to a proposal of a new atomic model from the chemical element point of view. The invalidity of the present models of photosynthesis and photoelectric effect was pointed out. These wrong models are the direct result of the wrong photon model.

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