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MICRON-SIZED PHOTONS OF THE SUN

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Abstract-* Contradictory to the current theoretical model, the images of photons collected from the Sun once revealed that they have visible shapes and measurable mass. In this work, distributions of micron-sized photons in energy, number and dimension are reported. The shapes of energy distributions of photons identical to the typical ones of hot electrons indicate that a photon possesses hot electron energy. In other words, a photon is equivalent to a hot electron. This is further strengthened by the solid photons united together. Moreover, the individual solid photons were surrounded by the gel type photons. Therefore, it is once again confirmed that a photon of light is composed of solid and gel types of photons. To avoid confusion, the theoretical photon was replaced by the sold matter and gel matter composed of hot electrons. In fact, light photons are matter itself directly collectable from the Sun or laser light. It was observed that a large light matter leaves multiple tiny matter as it goes through a medium. Multiple light matter coupled together contradict to the principle of the quantum mechanics basing on separate light matter. Images of long sward- or cross-shaped constructions made up of light matter are presented as well as light matter leaving a photon gel once defined as the gel binding multiple photons.

Keywords - The Sun; Photon; Gel; Energy; Dynamics; Image; Quantum Mechanics; Matter

I. INTRODUCTION

In the particle standard model, a photon has been defined as a massless and chargeless particle. The modern concept of photon originates from the quanta of light that Einstein introduced in his light quanta theory [1].

However, evidences contradictory to the theoretical model were disclosed and they are the images of photons collected directly from the Sun [2]. The photons visible and tangible certainly indicate that they have mass. Besides the solid photons, the images showed a sticky gel-type photons binding the solid ones once termed a “photon gel” [3]. The substantial photons delivered from the Sun were attributed to the electron orbit of atom in the proposed atomic model [4]. In other words, the photons comprising a light beam are equal to the electron orbits. Other evidences are more demanded to understand dynamics and energy of photons.

In this paper, new images of the Sun photons are presented. Energy distributions of photons are examined. Moreover, energy orbits are drawn to detail the connectivity between the photons.

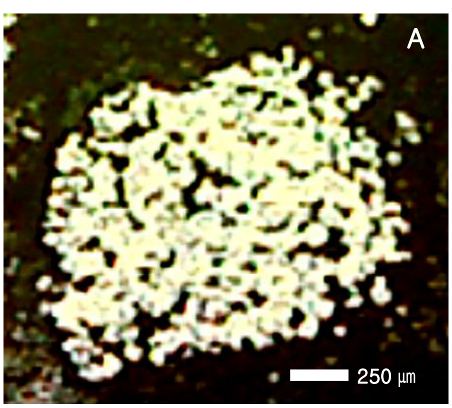

Fig. 1 (A) Photons of the Sun

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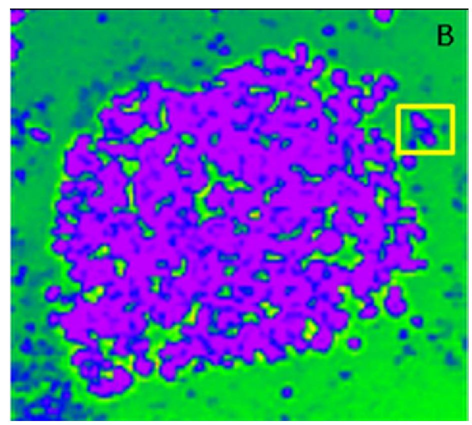

Fig. 1 (B) Colored version of Fig. 1 (A)

II. EXPERIMENTAL OBSERVATIONS

A device [5] was designed to collect photons of the Sun. It was exposed to the Sun to acquire photons reaching it. Fig. 1A shows a number of photons collected on the surface of the device. The image of Fig. 1A corresponds to the original one with contrast and brightness adjusted. The bright substances of Fig. 1(A) represent solid photons. In Fig. 1(B), the photons appear as the pink substances, around which blue photons are distributed. The conversion was made using a self-developed non-commercial software.

Fig. 2 shows a distribution of pixels in grayscale and number composing the original image of Fig. 1(A). Here, it is presumed that the grayscale of a pixel represents an energy state of a particle. The assumed principle was effectively used for separating laser light energy from the energy of surface plasmon carriers [6]. The pixel sum of y-axis is defined as the sum of pixels of the same grayscale. Two energy distributions peaking at 151 and 240 grayscales appear in Fig. 2. The latter narrow distribution matches the bright photons shown in Fig. 1(A). The shape of distribution is nearly identical to that of the hot electrons measured in the hot-carrier plasma experiment [7]. From this perspective, it is known that the photons possess hot electron energy. This is more supported by the photons united together as illustrated in Fig. 1(A). The integration between the photons is enabled only by their same positive energy. The other distribution in a lower grayscale range of 131 to 158 represents the negative plasmon carriers absorbing the positive energy of the photons.

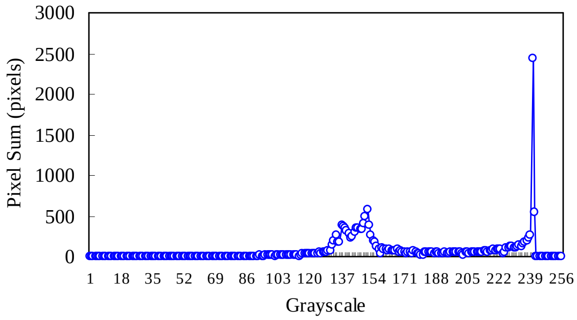

Fig. 2 Distribution of pixels of Fig. 1A

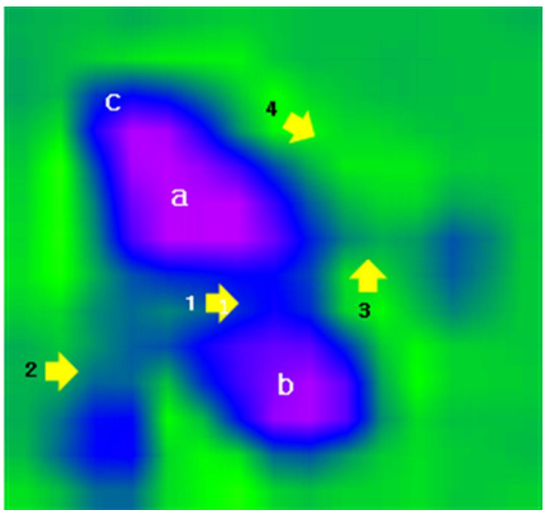

Fig. 3 Solid photons surrounded by gel type photons

The right region of Fig. 1B marked in the yellow box was magnified and the result is shown in Fig. 3. There are two solid pink photons (a, b). Each solid photon is surrounded by the blue one (c) and the two solid photons are linked through a bond marked with the arrow 1. Moreover, the blue photons are linked to other ones of the same color around them as pointed by the arrows (2, 3, 4). The observed binding property of the blue photons is consistent with the earlier ones noted for the laser light [8] and the Sun light [9]. The binding structure noted in Fig. 3 is able to be equally applied to any size of photons. In fact, the pink photons networked in Fig. 1(B) are enclosed by the blue photons. Meanwhile, the blue photons were found sticky as confirmed from their strong attachment to the substrate.

Fig. 4 shows the pixel distributions of Fig. 3, whose shape in a grayscale range of 116 to 153 is very close to the one of Fig. 2 for the hot electrons. This demonstrates the hot electron property of the two types of photons shown in Fig. 3.

Therefore, it is concluded that the photon is composed of two solid and gel types of photons. To distinguish the theoretical photon from the reporting tangible photons carrying hot electron energy, the solid and gel types of photons are referred to as the solid matter and gel matter respectively whose constituent particle is essentially the electron.

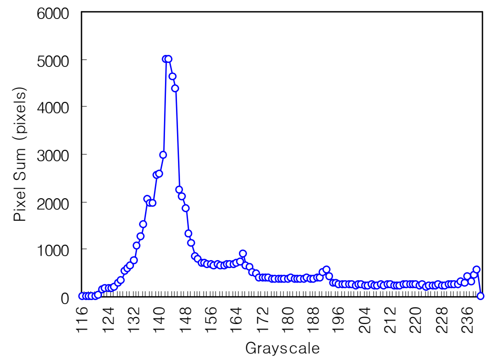

Fig. 4 Energy distributions

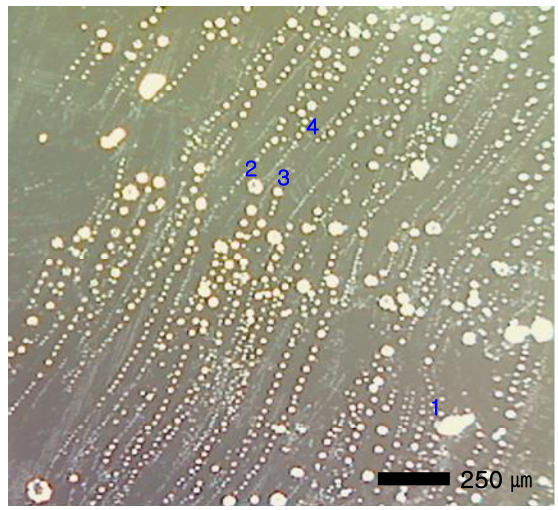

Fig. 5 Multiple beams of solid light matter

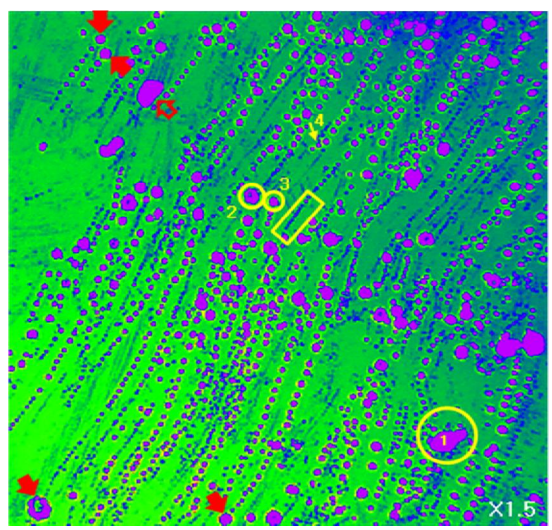

Fig. 6. Magnified and coloured version of Fig. 5

Fig. 5 shows multiple beams of light matter. As already observed [10], each beam is composed of tiny matter as well as a few large ones. The sizes of the four matter numbered from 1 to 4 in Fig. 5 were measured. The largest matter (1) is about 124 μm long and 27 μm wide. The remaining three ones (2, 3, 4) have diameters of about 54, 31 and 13 μm, respectively.

Fig. 6 isolates streams of light matter and individual matter more clearly. The four filled red arrows point relatively large matter, commonly leaving tiny matter. The largest matter of them located at the top left marked with the empty red arrow illustrates that it leaves 4 streams of tiny matters. Fig. 7 extracted from the other image shows a large matter travelling while leaving long streams of tiny ones. All these evidence indicate that a large matter leaves small ones as it travels.

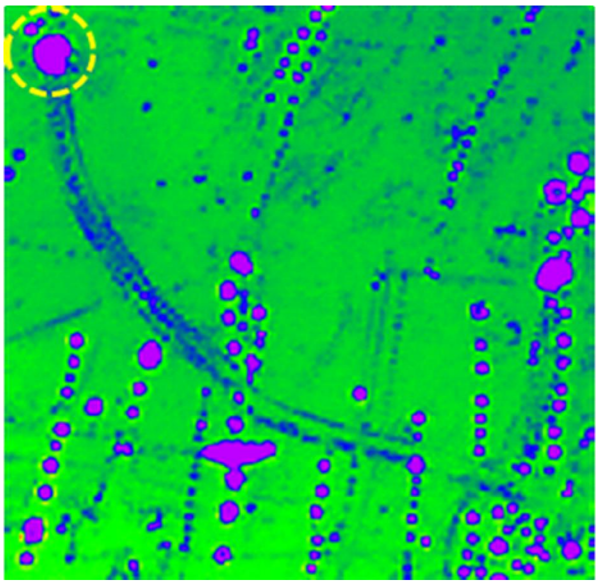

Fig. 7. A photon leaving tiny light matter.

A beam contained in the yellow box of Fig. 6 is examined in detail from Fig.8. A total of 10 solid matter appear. The binding structure noted already in Fig. 3 is able to be confirmed for each matter. All the individual matter are connected through the blue gel matter. The gel matter is seen further linked to other gels around the solid matter s as pointed by the red arrows. The bottom two arrows represent that the solid matter (1, 2) are interconnected through the gel matter. Therefore, it is known that the driving solid matter (1) and its descendents (2~10) are linked together by means of the gel. This is further strengthened by the bright green regions around the gel matter where the negative particles are involved in absorbing the gel-delivering positive energy. The continuity demonstrated between the matter clarifies the argument once presumed [11]. In the context of quantum mechanics, the proven connectivity is significant because it is based on the discrete, independently existing photons. In other words, the continuous link of light matter demonstrates that the quantum mechanics is incomplete as argued long by Einstein with his “local hidden variable theory”.

The connections between the first five photons (1~5) in Fig. 8 are more detailed in Fig. 9 by drawing energy orbits using the patented technique [12]. The technique once applied to visualize energy orbits of a variety of atoms, ions, or plasma [13]. As indicated by the pink circle, there are bonds between any two photons. The identified grayscales of the bonds are 179, 181, and 196 between the two photons 2-3, 3-4, and 4-5, respectively. The existence of the bonds becomes the direct and definite evidence verifying the continuity in matter connections.

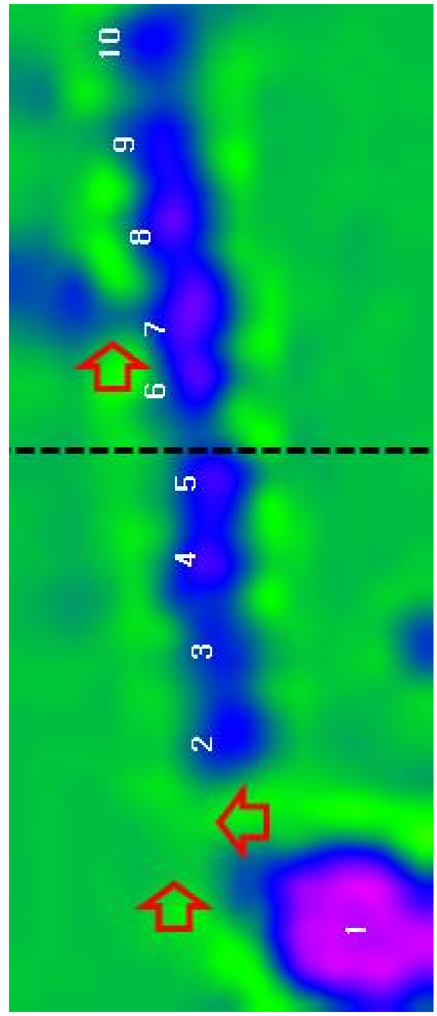

Fig. 8. A beam of light matter

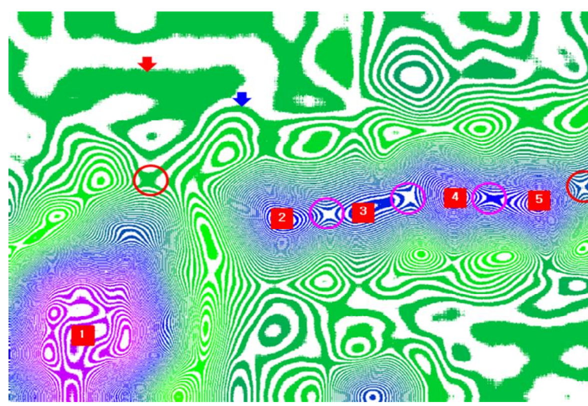

Fig. 9 Visualization of energy orbits

Meanwhile, Fig. 9 demonstrates that the 4 matter (2-5) including the solid one (1) are surrounded by the orbits marked with the blue arrow. The orbits are denser than the thick ones above it. But they are much less dense as compared to those of gel matter surrounding the solid one.

This means that they do not belong to the either matter, but represent other negative particles, attracted to the gel matter to absorb its positive energy.

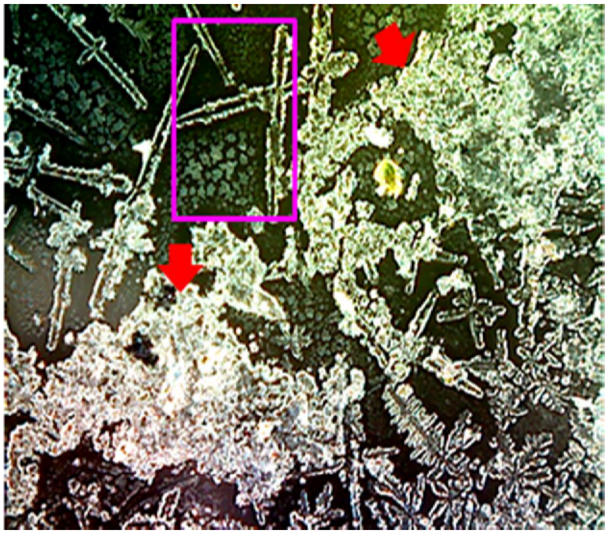

Fig. 10 Constructions built by light matter

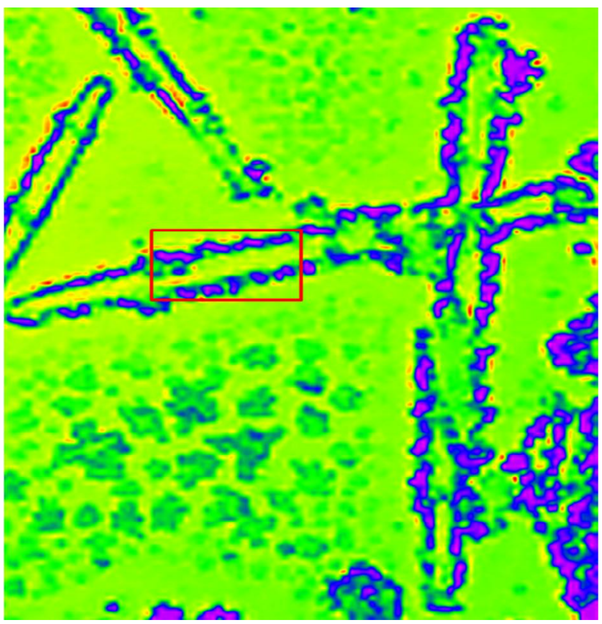

Fig. 11 A cross formed by light matter

Fig. 10 shows various constructions including a long sword or a cross made up by the solid and gel matter. The large fused solid matter as indicated by the red arrows indicates that they are of the same positive energy as stated earlier. The magnified image of the cross (Fig. 11) shows that its edges are built by the solid and gel matter. The part of the magnified cross (Fig. 12) confirms that the energy structure of matter is exactly identical to that noted in Figs. 8 and 9. In other words, the sold matter is surrounded by the gel matter and the negative cold electrons absorb the positive energy delivered by the gel matter.

It may be interesting to relate the two types of matter to the particles observed during laser-related experiments. The laser experiments reported creation of massive particles and positrons (i.e., positive electrons) [14-16]. The positron is an electron with opposite charge of the negative electron [17]. As they are compared to the observed two different matter in dimension and state, the massive and positrons well match the solid matter and the hot electron comprising the gel or solid matter, respectively.

Meanwhile, the positron-electron annihilation is typically observed in the laser experiments [18]. The present interpretation is that two photons of the same energy (i.e. 511 keV) are generated as both electron and positron annihilate given the electron energy of 511 keV. This means that the net energy accompanied during the positron-electron interactions is zero. How can this happen? The inappropriateness of the present interpretation is able to be qualitatively pointed out as follows. Energy is delivered from a higher (hotter) one to a lower (colder) one. In other words, a hot electron (positron) delivers its energy to a cold negative electron. As the electron energy before the collision is assumed to be A keV, the hot positron energy is surely higher than this one and is assumed to be 3A keV. As the positron collides with the electron, the electron gains an energy of A keV from the positron. This means that the initial positron energy is reduced to 2A keV with the electron energy increased to 2A keV. In consequence, both electron and positron possess the same energy of 2A keV, signifying that they are in thermal equilibrium after the annihilation.

The energy variations involved in the positron-electron annihilation may be verified by monitoring variations of imaged particles in terms of the grayscale. The cold electron and hot positron before the annihilation may look very dark and very bright, respectively. However, the electron and positron gaining and losing energy respectively may look bright equally after the annihilation. This may account for the generation of two bright photons, not belonging to the electron or positron from the energy level point of view. It must be noted that all the bright particles (positrons and photons) belong to a class of electrons. This originates from the nature of the photons that they are electron orbits of the atom as proposed in the atomic model [4].

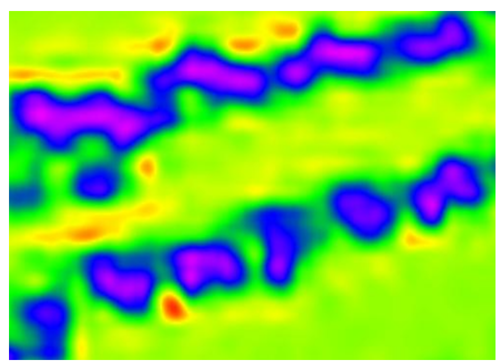

Fig. 12 Connections between light matter

Fig. 13 shows an image of a thin layer formed on the surface of the device. The sticky layer is filled with tiny constructions built by both solid and gel matter. A few giant solid matter appear as noted earlier in Fig. 5. Fig. 14 shows a number of straight light beams composed of large solid and gel matter. The straight matter motions are identical to that already reported [2]. This indicates that the light matter moves in the straight fashion. Although such big matter as those colored pink do not exist in the beams located at the bottom right, their presence is able to be easily convinced from the tiny photons left by them. A photon gel once termed [3] is contained in the yellow box and from it two pink matter each surrounded by the blue gel matter are seen separated for their journey.

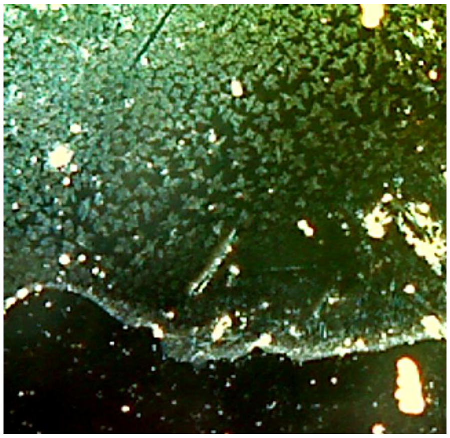

Fig. 13 Thin layer of light matter

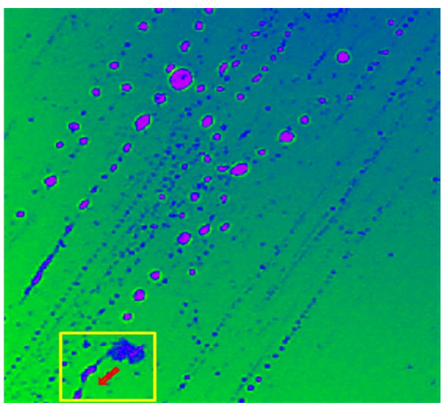

Fig. 14 Light beams and a photon gel

III. CONCLUSIONS

In this work, new images of photons of the Sun were presented. The energy distributions consistent with the typical one indicate that both solid and gel types of photons are composed of hot (or positive) electrons. According to the proposed atomic model, the photons are equivalent to the electron orbits, signifying that the photons are the electron orbits carrying hot electron energy. From this perspective, the photons are consistent with the positrons observed during the laser-applied experiments.

Meanwhile, it was stressed that the two types of tangible photons must be separated from the theoretical photon. For this purpose, the photon was replaced by both solid matter and gel matter. This means that there is no necessity to covert light into matter such as the recent effort [19]. Instead, efforts for collecting light matter in an optimized way as the one [5] are in demand. Light-related researches must start from the bottom because the traditional unsubstantial light photons are substantial matter itself directly collectable from the Sun or laser light.

Besides the energy distributions of the Sun photons, another new finding is that a large light matter leaves tiny ones as it travels. The continuity observed between the light matter is in contrast with the fundamental hypothesis (i.e. photons as the discrete and independent existence) on which the quantum mechanics is based. The inappropriateness of the quantum mechanics has already been pointed out in the proposed atomic model as well as by reinterpreting the positron-electron annihilation process.

This work including Book's contributions demands redefining a photon as matter, correcting the position and role of the photon in the particle standard model, and establishing a new electronic structure of an atom. Other materials to be reported include three-dimensional structures of light matter, nano-scaled solid matter, and chemical elements of light mater [20-23].

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