PHOTONS OR LIGHT IS A NON-LUMINOUS PARTICLES

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Abstract: The main objective of this paper is to shows that the photon or light is non-luminous particles. Light is a photon and photon is a particle so we can finally say that light is non-luminous particle. Non-luminous particle are those particle that are not self-glowing, but glow by observing energy from the source and if the source is cut off then the object stop glowing or may disappear. Non-luminous particle are mainly two types they are natural and artificial. Natural non-luminous are the planets, mountains, stones, trees, and so on while artificial non-luminous particle are chairs, buildings, books and so on. Like that, photon is also non-luminous particle let see, photon is a particle proved by different experiment like Photoelectric Effect, Compton Effect, Discrete emission and Radiation absorption and so on. when we glow leaser light or torch a stream of particles or photons are produce and this photon or particles carry energy that help us to see the object but when we off torch or leaser we don't see any object around us because the photon or light that is produce by torch are non- luminous. If the photon is luminous i.e. self glowing particle, then we see object around us and there is no necessary to glow the torch time to time i.e. if torch glow on room at once there is no needed of the electric bulb or any other source to bright our room or surrounding or night not occur forever.

Therefore, we finally concluded that photons or lights are Non-luminous particle with experiment and observation in our daily life

Keywords: Artificial, Compton Effect, Luminous, Non-Luminous, Natural, Photon, Photoelectric Effect.

Introduction: In physics, the term light sometimes refers to electromagnetic radiation of any wavelength, whether visible or not. In this sense, gamma rays, X-rays, microwaves, radio waves, all types of light emitted and absorbed in tiny "packets" called photons and exhibits properties of both waves and particles. Pierre Gassendi (1592–1655), proposed a particle theory of light in 1660s. Isaac Newton studied Gassendii work at an early age and hypothesis of Light of 1675 that light was composed of corpuscles (Opticks , 1704). Etienne-Louis Mauls in 1810 created a mathematical particle theory of polarization.

Eilhardt Wiedemann first used the term "Luminescent" in 1888. Wiedemann referred all liquids, solids emit more, and more radiation of shorter and shorter wavelengths as their temperature is continuously raised above absolute zero. Finally, wavelengths appear which the eye can perceive and the material becomes red hot and then white-hot. This condition is incandescence or "hot light," in contrast to luminescence or "cold light." Example: Sun, Torch, Candle, Oil lamp, Gas or Tungsten Filament have served both to heat and to light [1].

Astronomers define the luminosity of an object as the total amount of energy emitted at all wavelengths. The great movement toward the birth of science Euclid's of Alexandria (330B.C) was one of the first to conceive of the light as a luminous ray, rectilinear and so on.

The first record of a visual field defect is found in Hippocrates description of a Hemianopia from the late fifth century B.C. Ptolemy (150 B.C.) first attempted to quantify the visual field and noted its circular form. According to Lloyd, Galen was the first physician "to record recognition of extra macular fields." He suggests Ulmus of Padua published the first illustration of the visual field in an article in 1602. There are two types of light object. They are luminous objects and non- luminous objects.

Luminous Object: Objects that emit light on their own are called luminous objects. Best examples of luminous objects are the sun, stars, light bulb etc. Quasars are among the most distant and luminous objects known. All luminous objects can store energy. Many other luminous objects fall on the earth from outer space. It is of two types Natural and Artificial

Natural luminous Object: Luminous objects are those Objects, which are not made by human, or artificial is called Natural Luminous Object. Examples: Sun, Stars, Quasars and so on.

Artificial Luminous Object: Luminous objects are those Objects which human makes is called Artificial Luminous Object. Examples: Light bulb, Oil lamp, Torch and so on.

Non-luminous objects: Non-luminous objects are objects that do not give out light on its own. Moon, Rocks, Mountain, Trees, wood, plastics, metals etc. are example of living thing non-luminous object. We get to see non-luminous objects because light rays are reflected from them and into our eyes. All the non-luminous objects are capable of reflecting light to our eyes. Non-luminous objects cannot store energy. Non-luminous objects can reflect both light and heat. The color of the non-luminous objects depends on the color of the light reflected by them. The color of the reflected light depends on the color of the

incident light. Due to irregular reflection of light, we can see the non-luminous objects.It is of two type

Natural Non-Luminous Object: Non-Luminous Object is that Object which is not made by human or Artificial is called Natural Non-Luminous Objects. Example: Moon, Rocks, Mountain, trees and so on.

Artificial Non-Luminous Object: Non-Luminous Objects are those Objects, which are made by human or not made by nature are called Artificial Non-Luminous Objects. Example: Chairs, Desks, Buildings and so on.

Bioluminescence: Bioluminescence is the production and emission of light by a living organism. It is a form of Chemo-Luminescence. Bioluminescence occurs widely in marine vertebrates and invertebrates, as well as in some fungi, microorganisms including some bioluminescent bacteria and terrestrial invertebrates such as fireflies. In some animals, symbiotic organisms such as Vibrio bacteria produce the light.

Chemo-Luminescence: Chemo-Luminescence made by a chemical reaction. Glow sticks work this way.

Electro-Luminescence: Electro-Luminescence made by passing electricity through something like a gas.

Photo-Luminescence: Photo-Luminescence made by shining light at "luminous" (phosphorescent) paints.

Röntgeno-Luminescence: Röntgeno-Luminescence made by shining X-rays at things.

Sono-Luminescence: Sono-Luminescence made by passing energetic sound waves through liquids.

Thermo-Luminescence: Thermo-Luminescence made when photons are emitted from hot materials.

Tribo-Luminescence: Tribo-Luminescence made by rubbing, scratching, or physically deforming crystals.

Review: The great movement toward the birth of science Euclid's of Alexandria (330B.C) was one of the first to conceive of the light as a luminous ray, rectilinear and so on [2]. There are different theory that sate that light is photons or light is a tiny particle some the experiment are Compton , photoelectric effect Raman Effect and so on [3], [4], [5], [6]. Light is that part of the electromagnetic spectrum that is perceived by our eyes. The wavelength range is between 380 and 780 nm [7].

Light is comprised of particles. Isaac Newton in his treatise 'Opticks'. He thought that light was made of a large number of small particles. Light is a wave phenomenon. Christian Huygens first put this view forward at roughly the same time as Newton's [3], [4], [5], [6], [8]. Light is the things, which help us to see the different object but it is not visible itself. if the light is visible then we seen the pouch in front of the different object [9].

Aristotle schemes light is not itself visible but signifies of the medium that makes colored the body on the other side of it visible: color rather than light, is the proper object of sight [10]. The particular awareness that is based in and works through the energetic, or luminous. The word luminous is used not only because that 'body' emits light (photons) [11].

Emission or transmission of energy in the form of electromagnetic waves or corpuscles. These electromagnetic waves or corpuscles themselves. The wavelength of this radiation is unlimited. Radiation – visible Radiation causing visual sensation immediately and directly. Light Characteristic of all perceptions and sensation the visual organ is capable of mediating [12]. Early scientist thought that light was made of particles emitted by a light source – but not all properties of light could be explained by particles. Today light is explained in terms of duality – particles and waves. The sun is a luminous body that emits light, whereas the moon is an illuminated body that reflects light [13].

Newton vibration theory in the subject of heat, Cavendish applied it to other subjects, to optics first, "there can be no doubt ". Cavendish said, "Light is a body consisting of extremely small particles emitted from the luminous bodies with extremely light velocity". When these particle are reflected from a body, they are not reflected by single particle or by a few particles of that body but by a great quantity of its matter, so that by mechanical principle no perceptible is communicated to the body [14]. Light from luminous objects keeps travelling until it hits something. Daylight does not affect the amount of light produced from a luminous object nor does it affect how far light will travel from the object. Luminous objects give off light [15].

Light travels straight line from its source to the objects. The source is also called Luminous. For example, the sun, stars and fire are luminous bodies. Non-luminous bodies are those that do not emit light of their own. For example books, tables and chairs, are non-luminous bodies [16]. Visible light is the portion of the electromagnetic spectrum that our eyes are sensitive. Light travels in straight lines, light travel in straight line shown by different experiment [17], [18].

Light does not necessarily propagate in a straight line but only in the horizontal direction. Light is reflected when meeting an obstacle on its path. Those of the scientists' regarding the light phenomena: Light is generated by sources of light and is made up of corpuscles moving in a straight line and the size of the shadow of an object depends only on the relative distances among the source, the object and the observation screen and experimental result [19], [20].

Luminance is a physical term expresses the amount of light emitted or reflected from a surface in a particular direction. It is measured in units of Cd/m^2. Luminance depends on the reflectance of the object.

Latter the great Claudius Ptolemaeous (Ptolemy about 140A.D) imagined luminous ray emitted as pyramid form the eye, which sense red their direction and length [21].

Methodology: To proof the light is Non-Luminous particle. We use experimental, analysis and logical method.

Experimental Arrangement: let us take three ideal plane mirrors and make them equilateral triangle shape such that each angle is 600. Set the laser light in one face in such a way that if source is on then the reflection is beam is in all face in closed loop. The experimental observation is done in two ways:

a. in the presence of air and
b. in the absence of air.

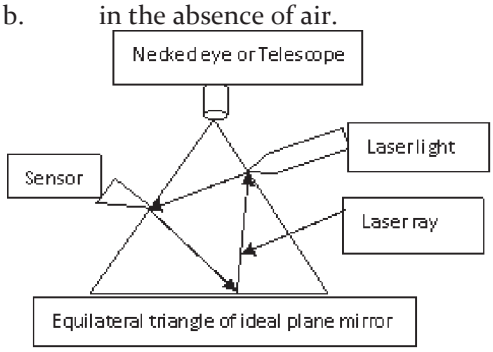

Fig: Experimental Arrangement to Verify Photon is Non-Luminous Particle.

When both condition are observe we found that when light source is off the light in the equilateral triangle is absence. Which is detecting by sensor or by looking with necked eyes?

Result: Hence, from above experiment we found that when the source is off the light beam is not present inside the equilateral triangle. Therefore, the photon acts as non-luminous particles.

Conclusion: From above experimental we concluded that light or Photon is a Non-Luminous particle because if the light or photon luminous particle. We see photon or light inside the equilateral triangle in above experiment in both cases when source is off or cut off:

i.In absence of Air and
ii.In presence of air.

However, we do not see photon after the source is cut off or off. Hence, finally, we concluded that light or photon is non-luminous particle.

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