Observation Principles for an earth Observer

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Abstract:

This is a science paper for a new scientific methodology for data analysing of energy emitted from objects in the universe by a set of principles to be known as: Observation Principles for an earth Observer.

These observation principles created, are formulated from measurements and observations observed, and measurable, from natural occurring events and experimental processes.

Physicist and astronomers need to understand there is a fundamental principle that observations from the universe may be contemporaneous; depending on distances and energy detection.

1. Introduction:

Phenomenalism literally means any system of thought that has to do with appearances [1].

Two arguments from the scientific account of perception are: “(i) the fact that the character of the resulting experience and of the physical object that it seems to present can be altered in major ways by changes in the conditions of perception or the relevant sense-organs and the resulting neurophysiological processes, with no change in the external physical object (if any) that initiates this process and that may seem to be depicted by the experience that results; (ii) the related fact that any process that terminates with the same sensory and neural results will yield the same perceptual experience, no matter what the physical object (if any) that initiated the process may have been like;” [2].

The doctrine for the philosophy of phenomenalism outlines above, that our perceptions of an experience may incorrectly explain the perceptual experience that initiated the process, or that the resulting experience that the physical object seems to present can be altered in major ways by the conditions of perception, with no change in the external physical object that initiated the process.

This would mean that an observation at times may be contemporaneous, appearing at the observation level to the senses an apparent perception and descriptive experience of what is

seen, but occurring from the source some distance further and time earlier - the original true and whole phenomenon unlike our summarized descriptions and/or conclusions.

If the description and conclusions for an observation is altered in any way by conditions of perception due to phenomenalism discombobulating science is created.

The scientific goal of this paper is to explore and develop a new branch of science methodology called Astrophysics Phenomenalism.

Astrophysics phenomenalism can be overcome by developing observation principles for earth observers that will help astronomers and physicist overcome phenomenalism and discombobulating science. This paper will contribute to developing the observation principles.

Methods:

The true nature of energy detection has not been properly defined or ordered into useable laws as a science methodology to aid scientist in determining and making correct conclusions, measurements, or description of distance objects or phenomena observed or measured from various locations in the universe.

Energy is emitted everywhere in the universe and can be observed to be radiating at various levels of strengths from natural occurring events and laboratory experiments. Laws and principles can be created from simple observations, measurements, and by analytical and comparative reasoning.

2. Observations with Measurements:

3.1. Generally all directly measurable observations show that all radiated energy goes from strong to weaker over distances:

3.1.1. The energy and temperature of the sun through the solar system.

3.1.2. The colours and temperatures of a flame from a welding torch or Bunsen burner.

Fig1. Fuel rich butane torch flame.

Fig2. Oxygen rich butane torch flame.

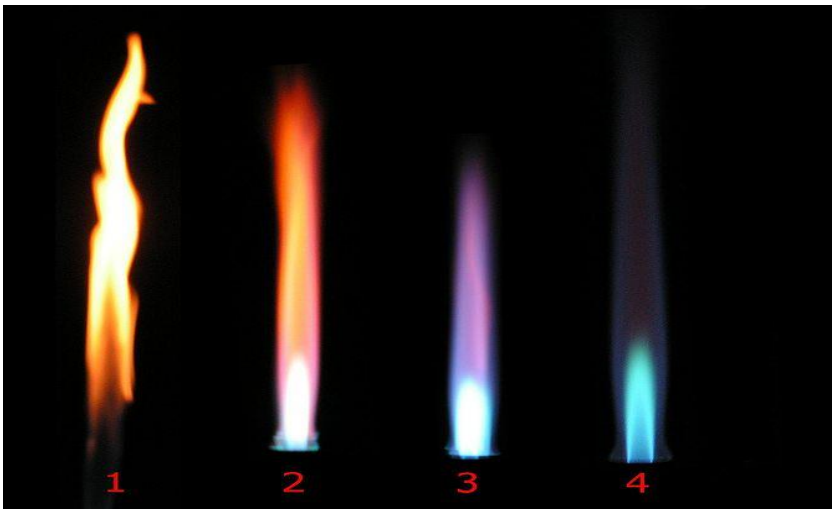

Fig3. Various settings of a Bunsen burner – closed to almost fully open.

3.2. The electromagnetic spectrum is an order of high energy to weaker energy; gamma-rays, x-rays, ultra violet light, purple, blue, green, yellow, orange, yellow, red, infrared, microwave, radio waves.

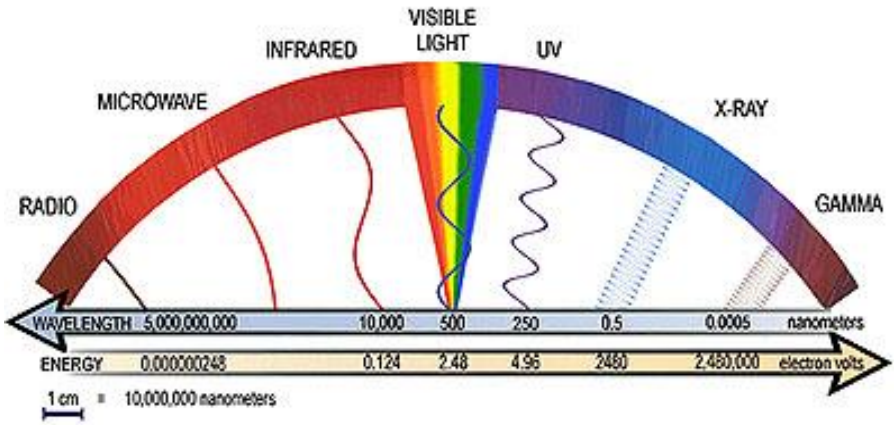

Fig4. The electromagnetic spectrum.

3.3. As illustrated in NASA illustration Fig4 - the frequency waves for the various frequencies get longer as the energy values decrease.

3.4. The amount of photons emitted from an object decreases as distances increases:

3.4.1. A 60 watt light bulb will light up a small room but not a large arena.

3.4.2. Longer exposure times are required for distance observations due to less photons to accumulate into an image. Hubble Telescope Ultra Deep Field (the most distance view of the universe) was a 275 hour exposure time.

3.5. Clarity of object diminishes and observable knowledge emitted from source decreases over distances.

Fig5. Beam Waveguide cluster- an example of how clarity diminishes as distances increase for each antenna until only an indiscernible speck of light.

3.6. There are two different states of light energy to consider for astronomical observations:

3.6.1. Temperature of objects; hypothesized scientifically as black-body radiation. [3]

3.6.1.1. “specific spectrum and intensity depends on temperature of object”

3.6.1.2. “the radiation of visible light increases monotonically with temperature”

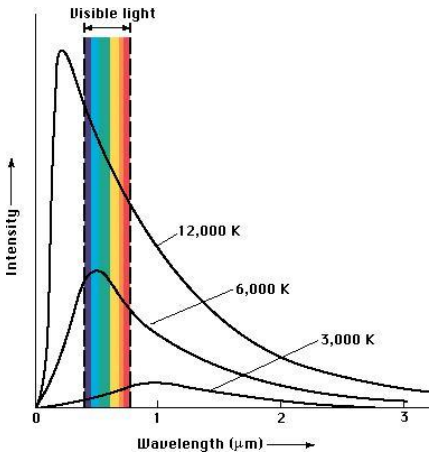

Fig6. Black-body radiation graph

3.6.2. Measurable light energy dependent on electrical .

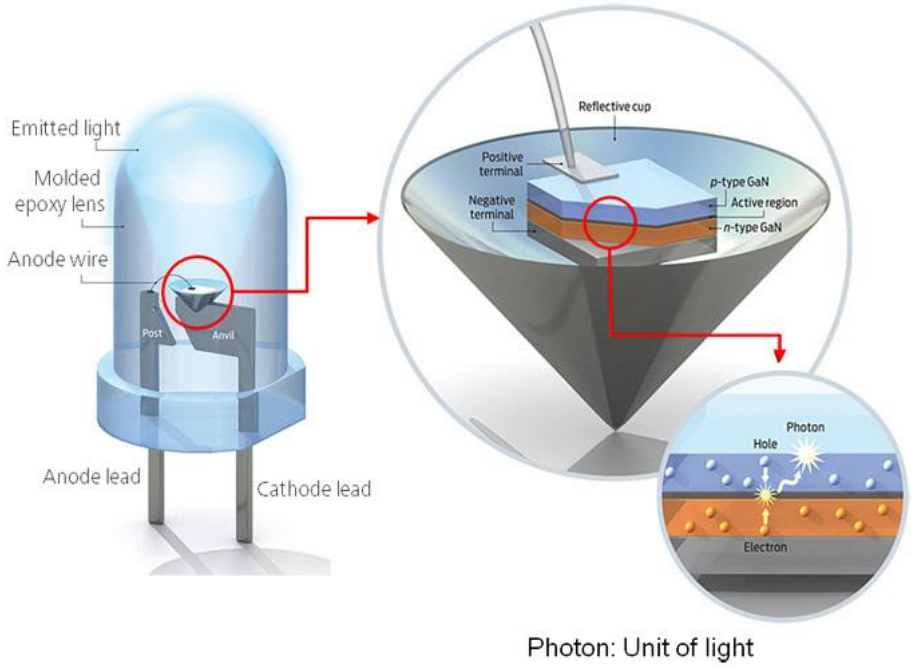

Fig7. [4] LED’s UV, individual colours, and IR not depended on temperature but on light energy.

3. Results and Discussion:

Developing results and conclusions from the above observations and measurements allow us to facilitate the composition of observation principles for an earth observer to help overcome Phenomenalism and discombobulating science.

4.1. High energy frequencies radiate to lower energy frequencies in almost every energy output source with examples provided in 3.1.1., and 3.1.2. above.

If the energy order from most energy sources seen and measured on Earth radiates from higher to lower energy frequencies, then with inductive reasoning we can logically conclude that the order of the electromagnetic spectrum would also radiate from higher into lower from all energy sources that radiate from the objects in the universe as distances increase. The energy frequencies decrease in the order of 3.2 and to when - determined from initial energy output of the object.

4.2. The electromagnetic spectrum graph Fig4. clearly shows that when energy detection is weak then we should see longer waves. This is clearly observable as the most distance galaxies at the edge of the visual universe are small red dots (the weakest energy level for colour). Light waves do no stretch but because the energy detected at those distances are weak and appear as weak longer wave frequencies associated with the colour red.

4.3. Energy frequencies have limitations; as shown by observation 3.4.1. for a 60 watt light bulb. The photons decrease over distance and the energy level is lacking to shine beyond immediate area. At longer distances a 60 watt light bulb is not distinguishable as the low energy output is of limited range and too weak. The 275 hour exposure time of Hubble Ultra Deep Field observation also amplifies and confirms the limitation of energy frequencies.

Applying deductive logic would mean that - energy radiation cannot be detected after a certain distance, depending on total output at source. This is why we see infrared galaxies at the edge of the universe, the microwave background radiation at the end of the visual universe and then darkness beyond.

4.4. Clarity of objects diminishes and observable knowledge emitted from source decreases over distances as illustrated by Fig5. The details of the structure for each antenna diminishes until it can no longer be determine what the object is – as it appears only as a tiny speck of light. Similarly some points of light may contain more detail than explainable due to lack of clarity due to distance.

4.5. There are two distinct states of light energy – the first is black-body radiation which is true for observations at closer distances. This can be known as the true energy of the source, also known as temperature.

When the distances increase the physics of black-body radiation are no longer clear but are replaced by the physics of light energy which is the energy level of the light detected from the source. The LED's are example of light energy without temperature. This phenomenon also occurs naturally as distances increase that can be known as the light energy of the source.

The light energy and energy order of frequencies explain phenomena such as dual colour variable stars, cold stars, colour of stars and galaxies, and a range of others. The effects of these phenomena are observable depending on distance away from the earth observer.

4.6 If the object is far enough away only the lower energy is detected.

This phenomenon is created because energy occupies certain zones as visually shown by Fig1., Fig2., and Fig3. and by the distinct existence of light energy.

High energy cannot occupy low energy zones. This effect is experienced in earth on a smaller scale. Energy in all its different forms of emission is experienced on a different level depending on location of observer. An earth observer standing near a camp fire will get burned, the observer will feel the heat further away, and only see the light if some distance away.

Both high and low energies can be experienced at the same time if close enough but not when further away – the further away the less energy is detected. Similarly on a greater scale in the vastness of space energies from the true energy source have energy detection zones if close enough will detect them all but if far enough away will only detect the weaker energies.

The frequencies or frequency seen will depend on the source's true energy and distance from an earth observer and follows the order of frequencies of the electromagnetic spectrum from higher to lower.

Conclusions:

The following are observation principles for an earth observer:

1. Observation from the universe may be contemporaneous which means two things occurring at the same time. These are the effects defined in Astrophysics Phenomenalism. Right decision of what is seen must be made or else discombobulating science is created – that is why the observation principles are developed.

2. True energy is the source energy and strength emitted from stars, galaxies, clusters, etc.

3. Light energy is the detectable energy emitted from stars, galaxies, clusters, etc. Light energy is sometimes the same as true energy. As distances increase the only energy level detectable is light energy not necessarily determine by temperature or original output.

4. When stars, galaxies, clusters, etc. radiate energy the energy decrease from strong to weak as distances increase for all observations generally. Some higher frequencies may not be detectable due to observer's extreme distance from the source.

5. When the distance is greater only a lower frequency is detectable and the higher energy frequency will be no longer detectable.

6. Photons decrease as distances increase.

7. Energy decreases as distances increase.

There are more observation principles that are outside of the scope and range of the observation and measurements discussed in this paper that will be published in a different context.

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