

# **An Explanation of how virtual waves are created, its negative effects and design and manufacturing of low-defect telescopes based on wavelength**

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In 1929, Hubble showed that galaxies are receding away from us with a velocity that is proportional to their distance from us ( $v = H.D$ ). We use this formula for a galaxy which is located at the observable boundary of universe,  $10^{24}$  km. we perceive that these galaxies are currently moving at a speed faster than the speed of light:

$$v = H.D = 72 \times 10^{24} \text{ km}^2 / \text{s.Mpc} \Rightarrow v = 2.4 \times 10^9 \text{ m/s} \Rightarrow v \gg C$$

On the other hand, Redshift and Blueshift cause deviation in our perceptions. But now its formula must be back to classical form. Suppose a galaxy in  $10^{25}$  meters distance from us that emit in visible range. The Redshift or Blueshift occurs but they are still in range of visible light. If the galaxy were further, there is a strong possibility that it cannot be seen in the visible light range. This means that the waves are emitted in range of visible and reach the observer, but the observer does not perceive it. For better understanding suppose that we work with x-rays telescope. It is a special telescope that is designed for observing x-rays. Therefore, it collects these specific wave ranges of space and probes them. The wrong observed waves by this telescope will be:

1. Blueshift effect: the observed waves have been actually in the range of visible light, but we perceive them as x-rays.
2. Redshift effect: the observed waves have been actually in the range of Gama rays, but we observe in the x-ray range.
3. Real x-rays: which are really in the range of x-rays, but cannot be observe in x-ray range and will disappear.

Therefore, we need a new receiver, sensitive to “ $\lambda$ ” instead of frequency, that will explain.

