



# A new explanation for Redshift/Blueshift

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## Introduction

Whenever an object moves relative to an observer, changes in sound and light are observed, which is called the Doppler phenomena. When the light source (and/or the receiver) moves, the color of receiving light will change. When an object moves away from receiver we have Redshift. It means the light is shifted to the red spectrum. And if comes towards, we have Blueshift. In the Redshift/Blueshift phenomena, speed is the main parameter. If the speed does not meet its specific threshold, a fraction of the speed of light, the Redshift/Blueshift could not be seen clearly. We have a formula that could show the change in frequency related to its velocity. But we do not have any fundamental/physical reason that could explain this change yet, e.g. Newton's Law of Gravitation & Einstein's theory of general relativity. In this paper, we have defined the frequency as an impulse and based on this definition we have explained the basic reason of Redshift/Blueshift phenomena in detail.

## Methods

We have taken the concept of frequency from another point of view, **Impulse**. The speed of blue light is identical to that of red light and there is no difference. As the frequency of blue light is equal to 700 THz, the blue light beats the detector  $700 \times 10^{12}$  times in the unit of time; or the red light with a frequency equal to 400 THz means the red light beats the detector  $400 \times 10^{12}$  times in a second. This definition will help us to explain many related phenomena such as: Redshift (Blueshift).

## Redshift (Blueshift) based on Saleh Theory

Based on Saleh Theory Photon is a particle with constant rest mass. It is the fastest, lightest and smallest particle; an object that is ejected from the excited electron, stars or in sub-atomic interaction at a very high speed. Photons emit from the stars in any direction. There is a set of photons that receive to receiver (Impulse the receiver) in a unit of time. The number of photons that impulse the receiver (receive to receiver) in a unit of time, Frequency. The more number of photons the more frequency is.

When an object moves away from the receiver, although the number of emitted photons in a unit of time from the star is constant, but less emitted photons will impulse the detector in a unit of time so our detector found it in a lower frequency, Redshift. If it comes towards, we have Blueshift it means we have received more photons in a unit of time than constant rate of emission. So we found the higher frequency.

## Conclusion

Based on Saleh Theory, Photon is the fastest, lightest and the smallest particle with constant mass. We have a formula that could show the change in frequency related to its velocity, but we do not have any fundamental/physical reason that could explain this change. The number of photons that impulse the receiver (receive to receiver) in a unit of time, Frequency.

We have Blueshift, it means in a unit of time more photons will impulse the detector than constant rate of emission due to the direction of relative velocity. So we found the higher frequency.

The definition of frequency based on impulse also could explain other unexplained fundamental phenomena such as the reason of change of speed of light in refraction, etc.

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