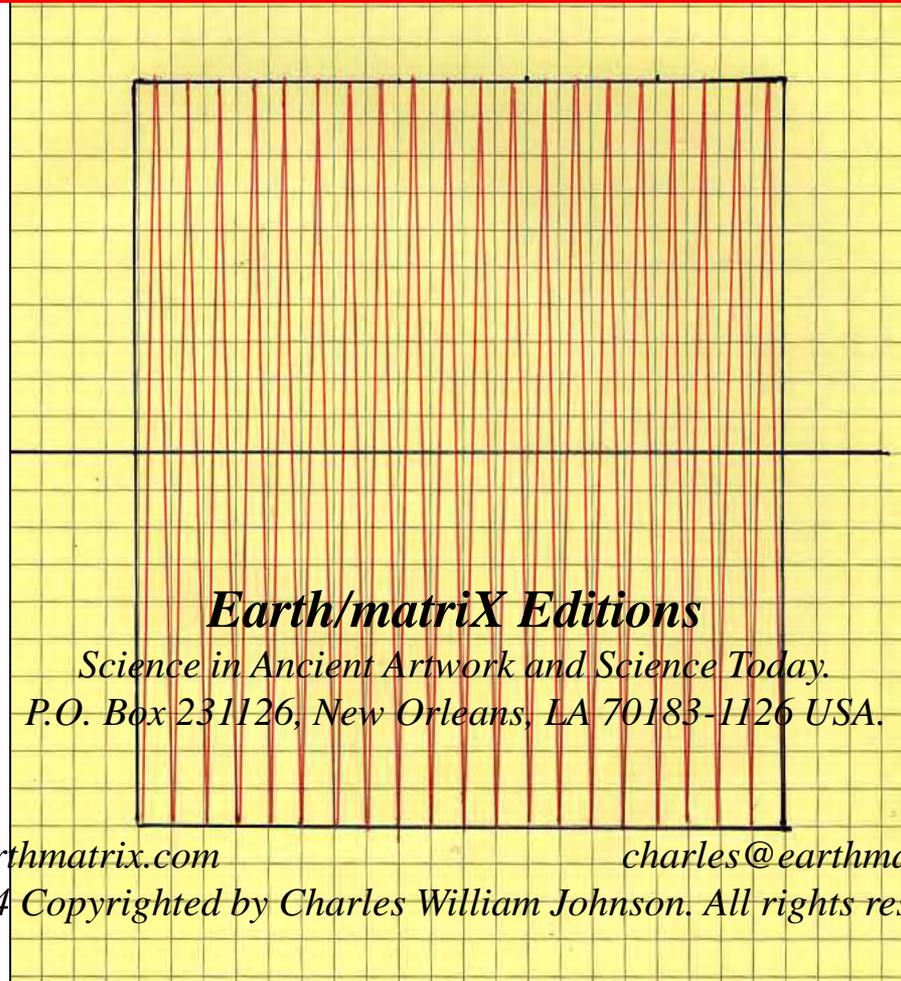


**Hypothetical Superluminal Velocities of Matter-Energy**  
**and**  
**the Visible Electromagnetic Particle-Wave Spectrum**

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# The Visible Light Spectrum

<u>Color</u>	<u>Low High</u>	<u>High Low</u>	<i>[Commonly cited values]</i>
<b>Violet</b>	668   450 /	789 THz 380 nm	frequency range wavelength range
$f \times w =$	<u>300600</u>	<u>299820</u>	
<b>Blue</b>	606   495 /	668 THz 450 nm	frequency range wavelength range
$f \times w =$	<u>299970</u>	<u>300600</u>	
<b>Green</b>	526   570 /	606 THz 495 nm	frequency range wavelength range
$f \times w =$	<u>299820</u>	<u>299970</u>	
<b>Yellow</b>	508   590 /	526 THz 570 nm	frequency range wavelength range
$f \times w =$	<u>299720</u>	<u>299820</u>	
<b>Orange</b>	484   620 /	508 THz 590 nm	frequency range wavelength range
$f \times w =$	<u>300080</u>	<u>299720</u>	
<b>Red</b>	400   750 /	484 THz 620 nm	frequency range wavelength range
$f \times w =$	<u>300000</u>	<u>300080</u>	

*\*All underscored fractal values approximate 299792.458 = c*

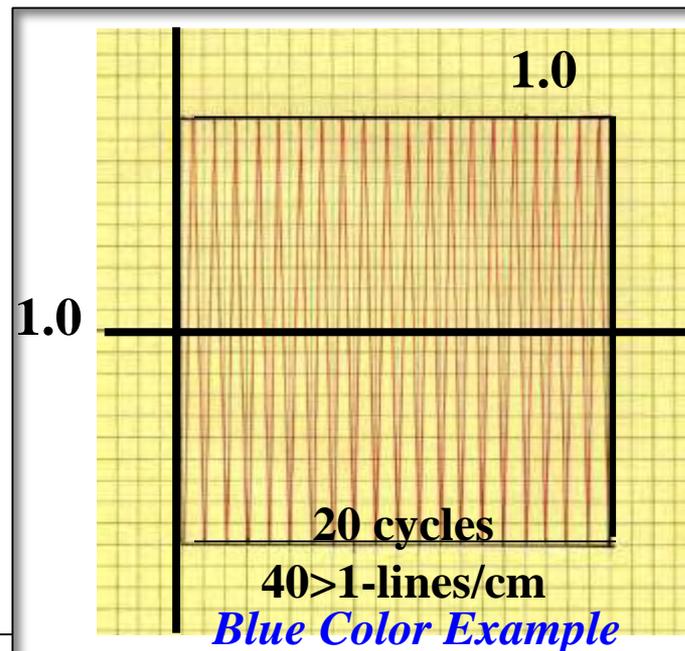
**Consider the Spectrum of Electromagnetic Visible Light  
in terms of their values for frequency and wavelength.**

# The Visible Light Spectrum

Consider the hypothetical cycles/centimeter as shown in the graph below.  
*[Not to scale, for purposes of illustration and reasoning].*

<i>Color</i>	<i>Low High</i>	<i>High Low</i>	<i>[Commonly cited values]</i>
<b>Violet</b>	668   450 /	789 THz 380 nm	frequency range wavelength range
$f \times w =$	300600	299820	
<b>Blue</b>	606   495 /	668 THz 450 nm	frequency range wavelength range
$f \times w =$	299970	300600	
<b>Green</b>	526   570 /	606 THz 495 nm	frequency range wavelength range
$f \times w =$	299820	299970	
<b>Yellow</b>	508   590 /	526 THz 570 nm	frequency range wavelength range
$f \times w =$	299720	299820	
<b>Orange</b>	484   620 /	508 THz 590 nm	frequency range wavelength range
$f \times w =$	300080	299720	
<b>Red</b>	400   750 /	484 THz 620 nm	frequency range wavelength range
$f \times w =$	300000	300080	

## Hypothetical Cycles/Centimeter



There are forty times more unit lines in the **example of the color blue** on the inset graph. As amplitude varies from 1 - 99% then velocities vary, increasing/decreasing accordingly.

## Superluminal Velocities of Matter-Energy Hypothetical Approximations

## Hypothetical Velocities of the Electromagnetic Particle-Wavepaths of Energy for the Visible Light Spectrum

<u>Color</u>	<u>Frequency</u> (/ second)	<u>/ Speed of light</u> in a Vacuum [m/s]	<u>Cycles / Centimeter</u> [Multiplier times c] [Amplitude Range]	<u>Particle-Wavepath Velocity</u> [Hypothetical Approximations] [Hypothetical range of velocities]
<b>Violet</b>	668,000,000,000	299792458 <i>Amplitude Range</i>	<b>44.56416312</b> <i>1 - 99% &gt;c</i>	<b><u>13,360,000,000 m/s</u></b> 433,384,867.5 - 13,226,381,270
<b>Blue</b>	606,000,000,000	299792458 <i>Amplitude Range</i>	<b>40.42796834</b> <i>1 - 99% &gt;c</i>	<b><u>12,120,000,000 m/s</u></b> 420,992,457.9 - 11,998,800,000
<b>Green</b>	526,000,000,000	299792458 <i>Amplitude Range</i>	<b>35.09094282</b> <i>1 - 99% &gt;c</i>	<b><u>10,052,000,000 m/s</u></b> 404,992,458 - 10,414,800,000
<b>Yellow</b>	508,000,000,000	299792458 <i>Amplitude Range</i>	<b>33.89011208</b> <i>1 - 99% &gt;c</i>	<b><u>10,160,000,000 m/s</u></b> 401,392,457.8 - 10,058,400,000
<b>Orange</b>	484,000,000,000	299792458 <i>Amplitude Range</i>	<b>32.28900442</b> <i>1 - 99% &gt;c</i>	<b><u>9,681,000,000 m/s</u></b> 398,394,329.9 - 9,583,200,001
<b>Red</b>	400,000,000,000	299792458 <i>Amplitude Range</i>	<b>26.68512762</b> <i>1 - 99% &gt;c</i>	<b><u>8,000,000,000 m/s</u></b> 379,792,458.0 - 7,920,000,001.0

*There are forty times more unit lines (cycles) in the example of the **color blue**.*

# MATTER-ENERGY IN SPACETIME/MOTION TRAVELS FAR BEYOND THE *DEFINED* SPEED OF LIGHT IN A VACUUM

As of the frequencies of each color on the electromagnetic light spectrum one derives the number of cycles per centimeter. Each value is doubled and then multiplied times the speed of light in a vacuum in order to derive the hypothetical velocities of the particle-wavepaths of energy for each color. The numerical values are hypothetical, the reasoning behind the particle-wavepaths is not. For example, the color blue has about twenty cycles (40 lines) per centimeter. The combined amplitude varies and is shown as unit one on the graph, which is suppositional and obviously not to scale. The amplitude is certainly infinitely less in spacetime/motion events. For purposes of illustration the graph suffices to derive the hypothetical velocities as fractal expressions.

The velocities of the particle-waves along their paths of energy will always be superluminal, that is, greater than the defined speed of light in a vacuum.

In the colors shown, the velocities of the particle-wavepaths of electromagnetic energy are numerous times the defined speed of light in a vacuum. These hypothetical values may be further visualized as of fractal multiples of the same according to the actual amplitudes of the electromagnetic waves for the entire electromagnetic spectrum. For now, only the visible part of the electromagnetic spectrum is considered. After observing the possible superluminal velocities of the electromagnetic particle-waves for light, a question arises regarding the commonly held idea that all electromagnetic waves travel at the speed of light. One wonders how varying frequencies of electromagnetic particle-waves all travel *within* the *defined* speed of light in a vacuum or, whether yet undetected variations may exist.

<u>Color</u>	<u>Frequency</u> (/ second)	<u>/ Speed of light</u> in a Vacuum [m/s]	<u>Cycles / Centimeter</u> [Multiplier times c] [Amplitude Range]	<u>Particle-Wavepath Velocity</u> [Hypothetical Approximations] [Hypothetical range of velocities]
Violet	668,000,000,000	299792458	44.56416312	<u>13,360,000,000 m/s</u>
Blue	606,000,000,000	299792458	40.42796834	<u>12,120,000,000 m/s</u>
Green	526,000,000,000	299792458	35.09094282	<u>10,052,000,000 m/s</u>
Yellow	508,000,000,000	299792458	33.89011208	<u>10,160,000,000 m/s</u>
Orange	484,000,000,000	299792458	32.28900442	<u>9,681&amp;0,000,000 m/s</u>
Red	400,000,000,000	299792458	26.68512762	<u>8,000,000,000 m/s</u>

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# Matter-Energy in Spacetime/motion Travels Far Beyond the **Defined** Speed of Light in a Vacuum

Color	Frequency (/ second)	Cycles per cm [Multiplier times <i>c</i> ]	Particle-Wavepath Velocity [Hypothetical Approximations]
Violet	668,000,000,000	44.56416312	<u>13,360,000,000 m/s</u>
Blue	606,000,000,000	40.42796834	<u>12,120,000,000 m/s</u>
Green	526,000,000,000	35.09094282	<u>10,052,000,000 m/s</u>
Yellow	508,000,000,000	33.89011208	<u>10,160,000,000 m/s</u>
Orange	484,000,000,000	32.28900442	<u>9,681&amp;0,000,000 m/s</u>
Red	400,000,000,000	26.68512762	<u>8,000,000,000 m/s</u>

## Earth/matriX

### Matter-Energy in Spacetime/motion Travels Far Beyond the **Defined** Speed of Light in a Vacuum

These are the hypothetical superluminal velocities required for the different colors of visible electromagnetic particle-wavepaths to attain in order to be able to travel the defined distance

between two points in one second of time as measured on Earth. **The hypothetical velocities vary accordingly to the amplitude of each electromagnetic particle-wavepath.**