



**Keywords:- X-ray, UV, Visible, NIR, Mid IR, Far IR**

## **Spectroscopic Wavelength and Frequency Ranges**

Particular regions of the Electromagnetic Spectrum are commonly assigned with terms such as Visible or Near IR (Infrared) etc. For reference purposes, frequency and wavelength ranges of these various spectral regions have been set by the Joint Committee on Nomenclature in Applied Spectroscopy.

The following table lists the definition of these spectral ranges in both terms of frequency and wavelength units.

<b>Region</b>	<b>Wavelength (Nanometres)</b>	<b>Wavelength (Microns)</b>	<b>Frequency (Wavenumbers – cm<sup>-1</sup>)</b>
<b>X-Ray</b>	<b>0.1 – 10</b>	<b>0.0001 – 0.01</b>	<b>100,000,000 – 1,000,000</b>
<b>Far Ultraviolet (Far UV)</b>	<b>10 – 200</b>	<b>0.01 – 0.20</b>	<b>1,000,000 – 50,000</b>
<b>Near Ultraviolet (Near UV)</b>	<b>200 – 380</b>	<b>0.20 – 0.38</b>	<b>50,000 – 26,315.8</b>
<b>Visible</b>	<b>380 – 780</b>	<b>0.38 – 0.78</b>	<b>26,315.8 – 12,820.5</b>
<b>Near Infrared (Near IR)</b>	<b>780 – 3000</b>	<b>0.78 – 3.00</b>	<b>12820.5 – 3333.34</b>
<b>Middle Infrared (Mid IR)</b>	<b>3000 – 30,000</b>	<b>3.00 – 30.00</b>	<b>3333.34 – 333.34</b>
<b>Far Infrared (Far IR)</b>	<b>30,000 – 300,000</b>	<b>30.00 – 300.00</b>	<b>333.34 – 33.34</b>