

電磁波の波長分類

The classification of electromagnetic radiation

(以下は CIE Terminology からのコピーです)

出典) <http://eilmv.cie.co.at/>

CIE Terminology (e-ILV)

17-370 electromagnetic radiation

emission or transfer of energy in the form of electromagnetic waves with the associated photons

NOTE The French term "radiation" applies preferably to a single element of any radiation, characterized by one wavelength or one frequency (see "monochromatic radiation").

17-1367 ultraviolet radiation

radiation for which the wavelengths are shorter than those for visible radiation

NOTE 1 The range between 100 nm and 400 nm is commonly subdivided into:

UV-A: 315 nm to 400 nm;

UV-B: 280 nm to 315 nm;

UV-C: 100 nm to 280 nm.

NOTE 2 A precise border between "ultraviolet" and "visible" cannot be defined, because visual sensation at wavelengths shorter than 400 nm is noted for very bright sources.

NOTE 3 In some applications the ultraviolet spectrum has also been divided into "far," "vacuum," and "near" ultraviolet; however, the borders necessarily vary with the application (e.g. in meteorology, optical design, photochemistry, thermal physics, etc.).

Abbreviation: "UVR"

17-1402 visible radiation

any optical radiation capable of causing a visual sensation directly

NOTE There are no precise limits for the spectral range of visible radiation since they depend upon the amount of radiant power reaching the retina and the responsivity of the observer. The lower limit is generally taken between 360 nm and 400 nm and the upper limit between 760 nm and 830 nm.

17-580 infrared radiation

optical radiation for which the wavelengths are longer than those for visible radiation, from 780 nm to 1 mm

NOTE 1 For infrared radiation, the range between 780 nm and 1 mm is commonly subdivided into:

IR-A: 780 nm to 1400 nm, or 0,78 μm to 1,4 μm ;

IR-B: 1,4 μm to 3,0 μm ;

IR-C: 3 μm to 1 mm.

NOTE 2 A precise border between "visible" and "infrared" cannot be defined, because visual sensation at wavelengths greater than 780 nm is noted for very bright sources at longer wavelengths.

NOTE 3 In some applications the infrared spectrum has also been divided into "near," "middle," and "far" infrared; however, the borders necessarily vary with the application (e.g. in meteorology, photochemistry, optical design, thermal physics, etc.).