

wavelength converter

A wavelength converter converts radiation at one wavelength to radiation at another detectable wavelength or at a wavelength of improved responsivity of the detector. The classical wavelength converter consists of a screen of luminescent material that absorbs radiation and radiates at a longer wavelength. Such materials are often used to convert ultraviolet to visible radiation for detection by conventional phototubes. In X-ray spectroscopy a converter that emits optical radiation is called a scintillator. In most cases wavelength conversion is from short to long wavelength, but in the case of conversion of long to short wavelength the process is sometimes called upconversion. Wavelengths of coherent sources can be converted using nonlinear optical techniques. A typical example is frequency doubling.

Source:

PAC, 1995, 67, 1745 (*Nomenclature, symbols, units and their usage in spectrochemical analysis-XI. Detection of radiation (IUPAC Recommendations 1995)*) on page 1758