

## self-absorption

Occurs in emission sources of finite thickness when radiant energy quanta emitted by atoms (or molecules) are absorbed by atoms of the same kind present in the same source. The absorbed energy is usually dissipated by collisional transfer of energy, or through emission of radiant energy of the same or other frequencies. In consequence, the observed radiant intensity of a spectral line (or band component) emitted by a source may be less than the radiant intensity would be from an optically thin source having the same number of emitting atoms. Self-absorption may occur in all emitting sources to some degree, whether they are homogeneous or not.

### **Source:**

Orange Book, p. 242

PAC, 1996, 68, 2223 (*Glossary of terms used in photochemistry (IUPAC Recommendations 1996)*) on page 2273

PAC, 1994, 66, 2513 (*Nomenclature for radioanalytical chemistry (IUPAC Recommendations 1994)*) on page 2525

### **See also:**

PAC, 1982, 54, 1533 (*Glossary of terms used in nuclear analytical chemistry (Provisional)*) on page 1552

PAC, 1985, 57, 1453 (*Nomenclature, symbols, units and their usage in spectrochemical analysis - V: Radiation sources (Recommendations 1985)*) on page 1464