

## photon exposure, $H_p$

Photon irradiance,  $E_p$ , integrated over the time of irradiation for a beam incident from all upward directions. SI unit is  $\text{m}^{-2}$ .

Notes:

1. Mathematical definition:  $H_p = \int_t E_p dt$ . If the photon irradiance is constant over the time interval,  $H_p = E_p t$ .
2. This term refers to a beam not scattered or reflected by the target or its surroundings. For a beam incident from all directions photon fluence ( $H_{p,o}$ ,  $F_{p,o}$ ) is an equivalent term.
3. This quantity can be used on a chemical amount basis by dividing  $H_p$  by the Avogadro constant, the symbol then being  $H_{n,p}$ , the name 'photon exposure, amount basis', SI unit is  $\text{mol m}^{-2}$ ; common unit is einstein  $\text{m}^{-2}$ .

### **Source:**

PAC, 2007, 79, 293 (*Glossary of terms used in photochemistry, 3rd edition (IUPAC Recommendations 2006)*) on page 394