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photon fluence, $H_{\mathrm{p,o}}$, $F_{\mathrm{p,o}}$

Amount of photons (quanta of radiation) incident on a small sphere from all directions, divided by the cross-sectional area of that sphere and integrated over time. Photons per surface area (quanta m^{-2}). SI unit is m^{-2}.

Notes:

1. Mathematical definition: $H_{\mathrm{p,o}} = F_{\mathrm{p,o}} = \mathrm{d}N_{\mathrm{p}} / \mathrm{d}S = \int_t E_{\mathrm{p,o}} \mathrm{d}t$ with $E_{\mathrm{p,o}}$ the photon fluence rate, integrated over the duration of the irradiation, t. If $E_{\mathrm{p,o}}$ is constant over the time interval, $H_{\mathrm{p,o}} = F_{\mathrm{p,o}} = E_{\mathrm{p,o}}\, t$
2. This quantity can be used on a chemical amount basis by dividing $H_{\mathrm{p,o}}$ by the Avogadro constant, the symbol then being $H_{n,\mathrm{p,o}}$, the name 'photon fluence, amount basis', SI unit is mol m^{-2}; common unit is einstein m^{-2}.

Source:

PAC, 2007, *79*, 293 *(Glossary of terms used in photochemistry, 3rd edition (IUPAC Recommendations 2006))* on page 395

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