

free electron laser

Source of coherent radiation in which the active medium is an electron beam moving at speeds close to the speed of light in the spatially periodic magnetic field produced by an array of magnets (the wiggler). The emitted wavelength, λ_L , is approximately given by

$$\frac{\lambda_w}{4 E^2},$$

with λ_w being the wiggler period and E the electron's energy in MeV.

See: laser

Source:

PAC, 1996, 68, 2223 (*Glossary of terms used in photochemistry (IUPAC Recommendations 1996)*) on page 2244