

## laser

A source of ultraviolet, visible, or infrared radiation which produces light amplification by stimulated emission of radiation from which the acronym is derived. The light emitted is coherent except for superradiance emission. The essential elements of a laser are: 1, an active medium; 2, a pumping process to make a population inversion; and 3, suitable geometry of optical feedback elements. The active medium consists of a host material (gas, liquid or solid) containing an active species.

**See:** argon ion laser, atomic laser, crystal laser, glass laser, ion laser, molecular laser, organic dye laser, helium–cadmium laser, chemical laser, CO<sub>2</sub> laser, copper vapour laser, diode laser, dye laser, excimer laser, free electron laser, free-running laser, gas laser, helium–neon laser, krypton ion laser, mode-locked laser, neodymium laser, nitrogen laser, Q-switched laser, solid-state lasers, ruby laser

**See also:** lasing

**Source:**

PAC, 1996, 68, 2223 (*Glossary of terms used in photochemistry (IUPAC Recommendations 1996)*) on page 2251

PAC, 1995, 67, 1913 (*Nomenclature, symbols, units, and their usage in spectrochemical analysis-XV. Laser-based molecular spectroscopy for chemical analysis - laser fundamentals (IUPAC Recommendations 1995)*) on page 1915