

Key Sections in Laser Physics Textbook

Ch 3 Absorption, Emission... of Light

- 3.2 CEO model
- 3.3-3.9, 3.11 absorption, lineshapes
- 3.12 cross section

Ch4 Laser Oscillation: Gain and Threshold

- 4.1 – 4.5 gain, feedback, threshold, rate equations
- 4.7, 4.8 3,4 level lasers
- 4.11 saturation
- 4.12 small-signal gain
- 4.14 spectral hole burning

Ch 5 Laser Oscillation: Power and Frequency

- 5.2, 5.3 lasing and optimum output coupling
- 5.7 inhomogeneous medium
- 5.8 spectral hole burning and Lamb dip
- 5.10 single frequency oscillation

Ch 6 Multimode and pulsed lasing

- 6.1-6.3 rate equations, relaxation oscillations
- 6.4 Q switching (more discussed in lecture notes)
- 6.6-6.9 modelocking

Ch 7 Laser Resonators and Gaussian Beams

- 7.1 – 7.8