

STUDY GUIDE 3

Readings:

- Chapter 18      This chapter describes the phenomenon of stimulated emission, which is the basis for all lasers. The subsections labeled "stimulated emission: quantum viewpoint" on p. 332, and "quantum viewpoint: photons per mode" on pp. 335 to 336 are optional readings, for those interested in a more advanced treatment.
- Chapter 19      Section 19-1 only. The mathematics of "rate equations" is used to determine how the gain in a laser medium changes as the light intensity builds up. This is important for understanding optical amplifiers, and also plays a key role in understanding the efficiency of lasers.

Homework #3 (due Nov. 17):

Ch. 18: problems 2, 3, 5, 6, 10, 11

Ch. 19: problems 2, 3