

STUDY GUIDE 4

Readings:

Chapter 19      Section 19-2. Here the expressions for gain coefficient due to stimulated emission are used to obtain the total gain of an optical amplifier. The importance of gain saturation is emphasized.

Chapter 20      All. The idea of lasing threshold is introduced, and the rate equation approach is used to describe the input vs. output characteristics of a laser. A key concept is the slope efficiency, which relates the incremental change in output power to the incremental change in input power.

Homework #4 (due Nov. 28):

Ch. 19: problems 4, 5, 6

Ch. 20: problems 1, 3, 4, 7, 8, 9, 11