

EE 236
Fall 2004
Homework set 10
Due Wednesday, November 24

The homework for the next week and one half is a 4-5 page paper on one of the following list of topics, by self-study in Yariv (with my assistance), and by reference to at least two references. Alternatively, you may select a different relevant topic with my approval. These do not have to be current literature, historical papers are OK. These papers will be presented as short (20 minute) talks to the rest of the class on December 1, 3, or 6. We will discuss choices in class, but you should pick a topic by next Monday (November 15) at the latest.

The papers do not need to be original, but should draw on several references and should be your own interpretation, as contrasted with extensive quoting or copying from references. One page of figures is appropriate, or the equivalent area.

Modulation of optical radiation
Electro-optic effects

Coherent interactions
Super radiance
Photon echoes
Self induced transparency

Nonlinear Optics
Second order perturbation theory
Harmonic generation, sum or difference Frequency generation
Nonlinear interactions in optical fibers, solitons
Raman scattering and Raman amplifiers

Noise
In optical detection
In laser amplifiers

Dielectric waveguides
Optical fibers
Integrated optoelectronics