

**Reminders 4-22-08:**

**-Answers to Conceptual Questions on Wave Optics will  
are posted.**

**-Read Chapter 26**

**-Exam 4 Thursday April 24 Chapters 22-25**

**Objectives:**

**-Polarization**

**-Introduction to Relativity**

## Wave Optics

- A beam of vertically polarized light is incident on 3 polaroid films. The transmission axis of the 1st polarizer is at 0 degrees with respect to the vertical, the 2<sup>nd</sup> is at 40.0° with respect to the vertical, and the 3<sup>rd</sup> is at 75.0° with respect to the vertical. What percent of the incident light is transmitted through all three polaroids?

Answer:  $I = 0.39I_0$ ; 39%; 19.5% if incident light is unpolarized

$$I = I_0 \cos^2 0 = I_0$$

$$I = I_0 \cos^2 40 = I_0 (.587)$$

$$I = .587 I_0 \cos^2 35 = .39 I_0$$