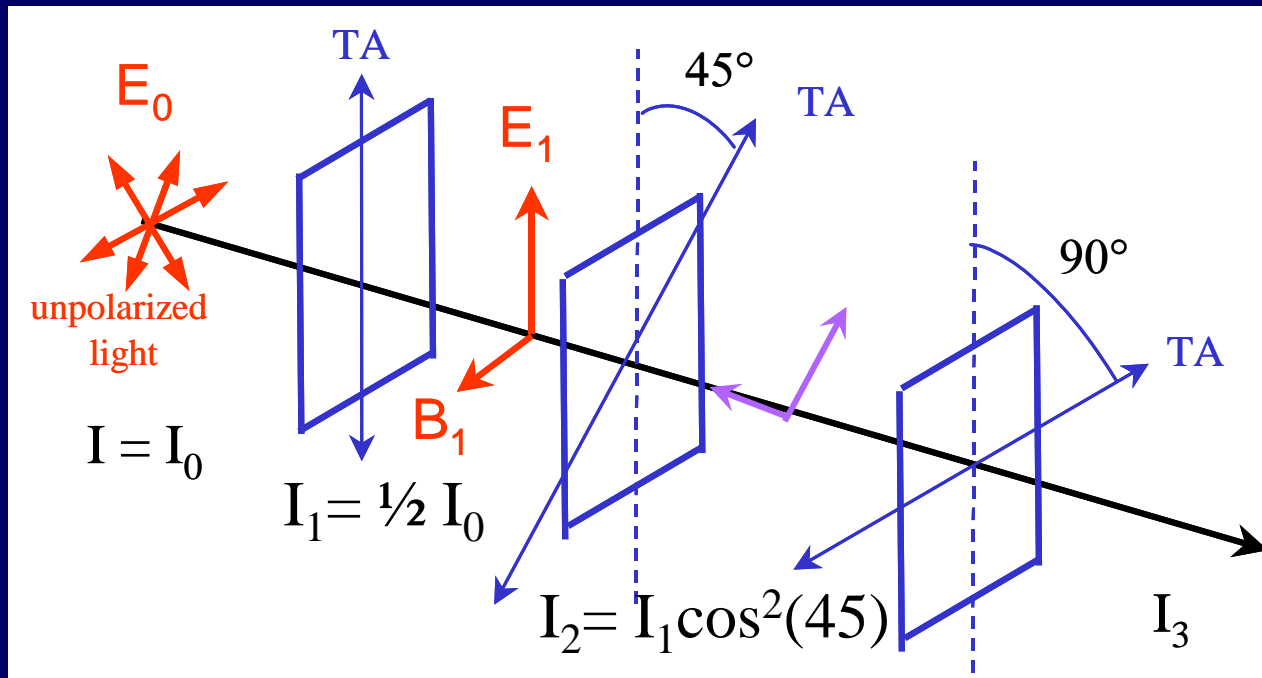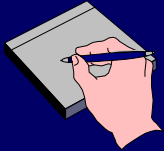# Law of Malus – 3 Polarizers

Example

2) Light transmitted through first polarizer is vertically polarized. Angle between it and second polarizer is $\theta=45°$.
$I_2 = I_1 \cos^2 (45°) = \tfrac{1}{2} I_0 \cos^2 (45°)$

3) Light transmitted through second polarizer is polarized 45° from vertical. Angle between it and third polarizer is $\theta=45°$.
$I_3 = I_2 \cos^2 (45°) = \tfrac{1}{2} I_0 \cos^4 (45°) = I_0/8$