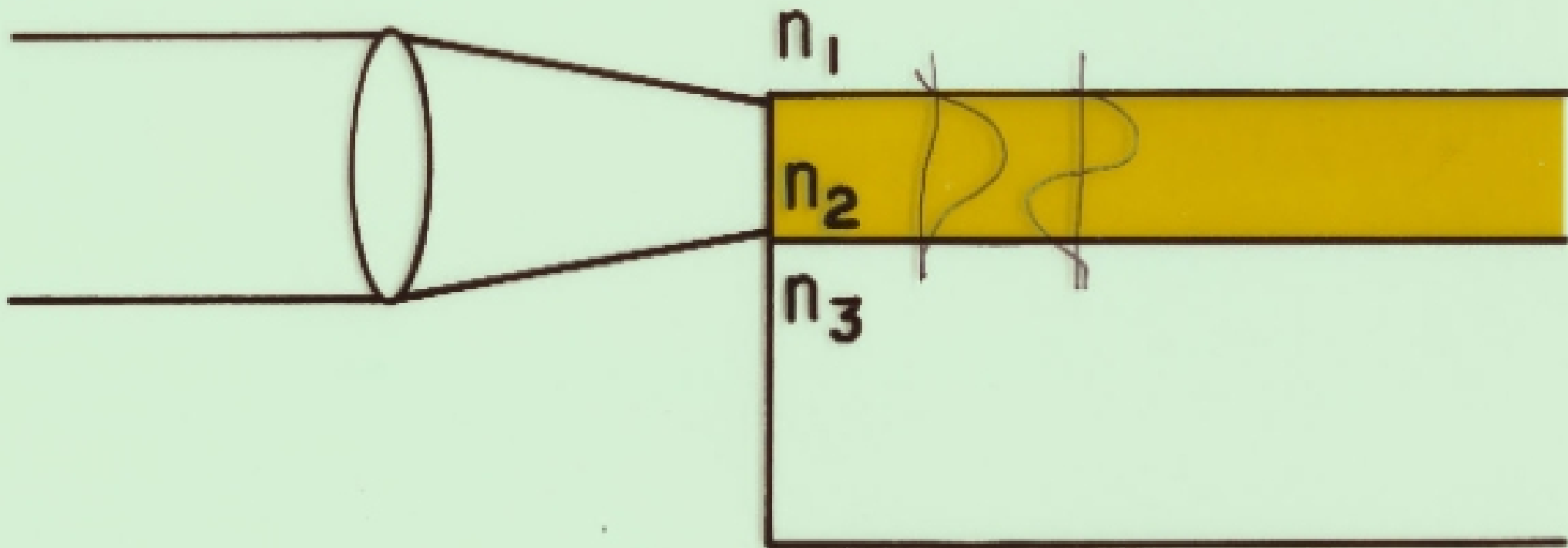


Transverse Coupler



Coupling Efficiency

Coupling Efficiency, η_{cm}

$$\frac{\text{Power coupled into (out of) the } m\text{th order mode}}{\text{Total power in optical beam prior to coupling}}$$

Coupling Loss (in dB), \mathcal{L}_{cm}

$$10 \log \frac{\text{Total power in optical beam prior to coupling}}{\text{Power coupled into (out of) the } m\text{th order mode}}$$

$$\eta_m = \frac{[\int A(x) B_m^*(x) dx]^2}{\int A(x) A^*(x) dx \int B_m(x) B_m^*(x) dx}$$

$A(x)$ = amplitude distribution
of input beam

$B_m(x)$ = amplitude distribution
of waveguide mode