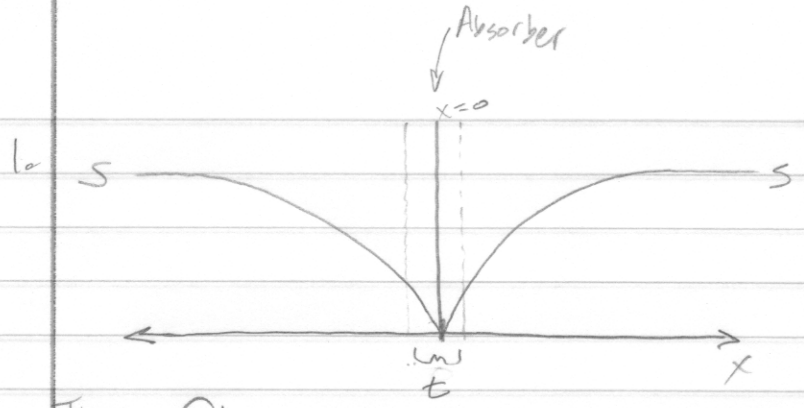


The flux will be symmetric about the absorber sheet.

one group steady state diffusion eqn

$$-D\nabla^2\phi + \Sigma_a\phi = S$$

divide through by $-D$

$$\frac{d^2\phi}{dx^2} - \frac{1}{L^2}\phi = -\frac{S}{D}$$

General solution

$$\phi(x) = Ae^{-\frac{x}{L}} + Ce^{\frac{x}{L}}$$

subject to BC

a) $\lim_{x\to 0^+} -D\frac{d\phi}{dx} = 0$

b) $\lim_{x\to\infty} \phi(x) = S$