$$d \quad = \quad \ell\sqrt{N}$$

$$\tau \quad = \quad \rho\kappa s$$

$$\frac{dI}{I} \quad = \quad -\rho\kappa\, ds \quad = \quad -d\tau$$

$$I(\tau) \quad = \quad I_0\, e^{-\tau}$$

$$dI \quad = \quad -\rho\kappa\, ds\ I$$

$$-\frac{1}{\kappa\rho}\,\frac{dI}{ds} \quad = \quad I$$

$$dI \quad = \quad -\rho\kappa\, ds\ I \ + \ \rho j\, ds$$

$$\frac{1}{\kappa\rho}\,\frac{dI}{ds} \quad = \quad \frac{j}{\kappa} \ - \ I \quad = \quad S \ - \ I$$

$$I(s) \quad = \quad \int_{s=0}^{s=s_f} \frac{1}{\kappa\rho}\,\frac{dI}{ds} \quad = \quad \int \frac{j}{\kappa} \ - \ I \quad = \quad S \ - \ I$$

$$I(s) \quad = \quad I_0\, e^{-\rho\kappa s} \ + \ S\,(1 \ - \ e^{-\rho\kappa s})$$

$$\frac{I(\theta)}{I(\theta = 0)} \quad = \quad a \ + \ b\,\cos(\theta)$$