

$$\sigma := 0.2 \quad \lambda := 40 \text{ nm} \quad \rho_0 := 2.20 \cdot 10^{-6} \text{ } \Omega \cdot \text{cm} \quad D_{50} := 40 \text{ nm} \quad R := 0.69$$

$$pdf(D) := \frac{1}{\sigma \cdot D \cdot \sqrt{2} \pi} e^{\left( -\left( \frac{1}{\sigma \cdot \sqrt{2}} \ln \left( \frac{D}{D_{50}} \right) \right)^2 \right)}$$

$$A(w) := \frac{\pi}{4} \int_{\frac{w}{nm}}^{\infty} pdf(D \cdot nm) \cdot D \cdot nm \cdot \frac{D \cdot nm - w}{w} dD \cdot nm$$

$$B(w) := \int_{\frac{w}{nm}}^{\infty} pdf(D \cdot nm) \cdot 1 \cdot \frac{D \cdot nm - w}{w} dD \cdot nm$$

$$D_{eff}(w) := \frac{A(w)}{B(w)}$$

$$A(90 \text{ nm}) = (9.034 \cdot 10^{-14}) \text{ m}$$

$$\alpha(w) := \frac{\lambda}{D_{eff}(w)} \frac{R}{1-R}$$

$$B(90 \text{ nm}) = 1.17 \cdot 10^{-6}$$

$$D_{eff}(90 \text{ nm}) = (7.721 \cdot 10^{-8}) \text{ m}$$

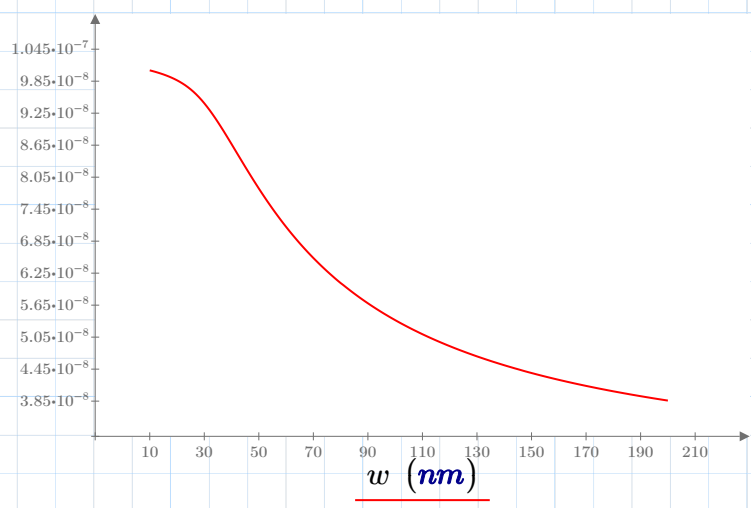
$$\rho_{MS}(w) := \frac{\rho_0}{3 \left( \frac{1}{3} - \frac{\alpha(w)}{2} + \alpha(w)^2 - \left( \alpha(w)^3 \ln \left( 1 + \frac{1}{\alpha(w)} \right) \right) \right)}$$

$$\rho_{MS}(90 \text{ nm}) = (5.685 \cdot 10^{-8}) \frac{\text{kg} \cdot \text{m}^3}{\text{s}^3 \cdot \text{A}^2}$$

$$\rho_{MS}(350 \text{ nm}) = (3.175 \cdot 10^{-8}) \frac{\text{kg} \cdot \text{m}^3}{\text{s}^3 \cdot \text{A}^2}$$

$w := 10 \text{ nm}, 11 \text{ nm} \dots 200 \text{ nm}$

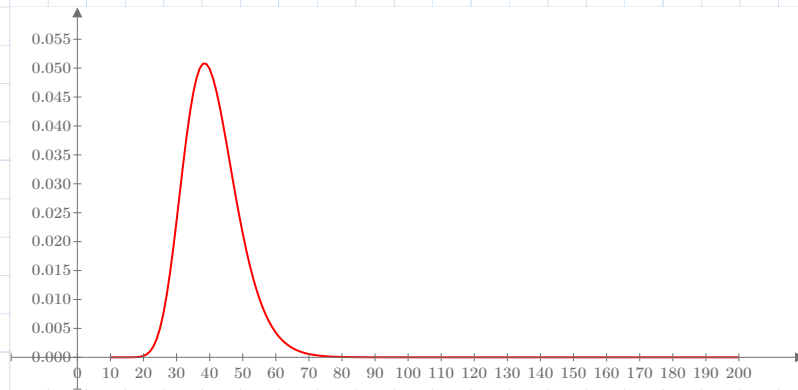
$$\rho_{MS}(2049 \text{ nm}) = (2.375 \cdot 10^{-8}) \frac{\text{kg} \cdot \text{m}^3}{\text{s}^3 \cdot \text{A}^2}$$



$$\rho_{MS}(w) \left( \frac{\text{kg} \cdot \text{m}^3}{\text{s}^3 \cdot \text{A}^2} \right)$$

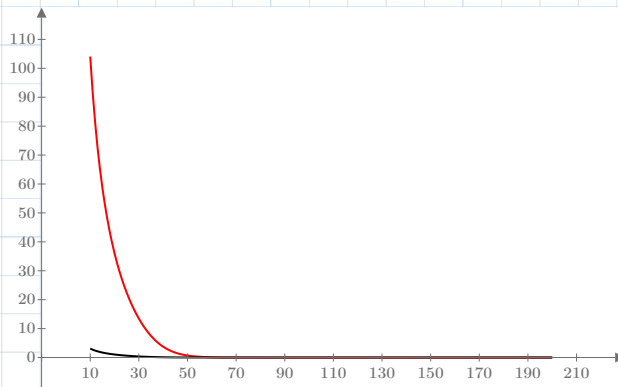
$D := 10 \text{ nm}, 11 \text{ nm} \dots 200 \text{ nm}$

$$J(D) := \frac{\pi}{4} \cdot pdf(D) \cdot D \cdot \frac{D - 10 \text{ nm}}{10 \text{ nm}} \quad K(D) := pdf(D) \cdot 1 \cdot \frac{D - 10 \text{ nm}}{10 \text{ nm}}$$



$$\underline{pdf(D) \left( \frac{1}{nm} \right)}$$

$D \text{ (nm)}$



$A(w) \text{ (nm)}$

$B(w)$

$w \text{ (nm)}$

$$sJ := \int_{10}^{\infty} J(D \cdot nm) dD \cdot nm = 104.079 \text{ nm}$$

$$sK := \int_{10}^{\infty} K(D \cdot nm) dD \cdot nm = 3.081$$