

17. Using the notation of Sample Problem 37-6 (which is in the textbook supplement), the minimum separation is

$$D = L\theta_{\text{R}} = L \left( 1.22 \frac{\lambda}{d} \right) = (3.82 \times 10^8 \text{ m}) \frac{(1.22)(550 \times 10^{-9} \text{ m})}{5.1 \text{ m}} = 50 \text{ m} .$$