

D6FARONS

Diffraction on a round aperture of radius a, using wavelength λ .

The graph is not normalized.

X is distace:Slit-Screen,

R is coordinate on Screen,

All length in mm, parameters are globally defined above the graph.

Three round apertures with different Radii a1, a2, and a3

$$R := -10.01, -9.91 \dots 10.01 \quad X := 1000 \quad \lambda \equiv .010$$

$$a1 \equiv 1.5 \quad I1(R) := \left[\frac{J1\left(2 \cdot \pi \cdot a1 \cdot \frac{R}{\lambda \cdot X}\right)}{\left(2 \cdot \pi \cdot a1 \cdot \frac{R}{\lambda \cdot X}\right)} \right]^2$$

$$a2 \equiv 3 \quad I2(R) := \left[\frac{J1\left(2 \cdot \pi \cdot a2 \cdot \frac{R}{\lambda \cdot X}\right)}{\left(2 \cdot \pi \cdot a2 \cdot \frac{R}{\lambda \cdot X}\right)} \right]^2$$

$$a3 \equiv 6 \quad I3(R) := \left[\frac{J1\left(2 \cdot \pi \cdot a3 \cdot \frac{R}{\lambda \cdot X}\right)}{\left(2 \cdot \pi \cdot a3 \cdot \frac{R}{\lambda \cdot X}\right)} \right]^2$$

