

Exercise: Expansion of a Laser beam

In 1985, a laser beam with a wavelength of $\lambda = 500 \text{ nm}$ was fired from the earth and reflected off the space shuttle Discovery, in orbit at a distance of $L = 350 \text{ km}$ away from the laser.

If the circular aperture of the laser was $D = 4.7 \text{ cm}$, what was the beam diameter d at the space shuttle?

