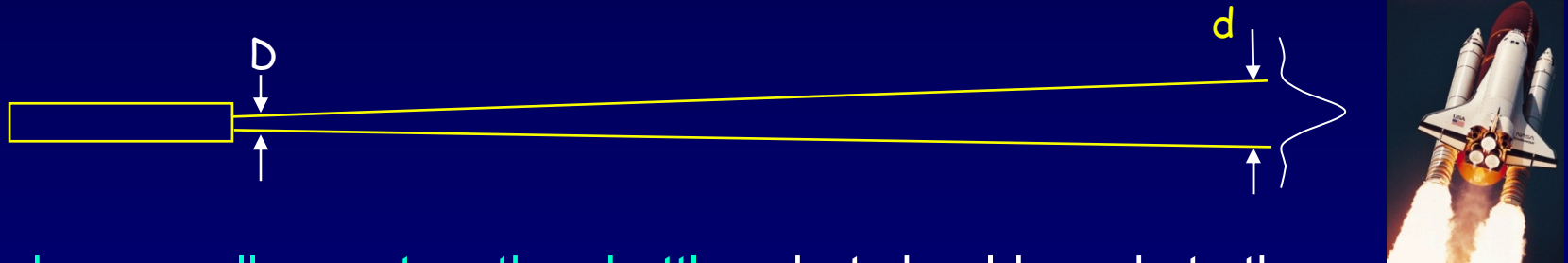


Act 1

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.



To make a smaller spot on the shuttle, what should we do to the beam diameter at the source?

- a. reduce it b. increase it c. cannot be made smaller