

Measurement with lens
of 400 mm focal length : 2.1mm FWHM
=> Diameter ($1/e^2$) = $1.7 * 2.1 = 3.57$ mm

$$2\theta = \arctan\left(\frac{\text{Diameter}}{\text{Focal}}\right) \simeq \frac{\text{Diameter}}{\text{Focal}}$$

=> $\theta = 4.46$ mrad

Direct measurement : ~ 8.1 mm FWHM
@ $L = 1.55$ m
=> Diameter ($1/e^2$) = $1.7 * 8.1 = 13.8$ mm

With the software GaussianBeam,
to fit this measurement, one finds a
divergence of 4.46 mrad

Be careful with short focal length lenses :
the error in placing the lens in front of the beam can
produce large errors in the measurement :
the measurement was completely wrong with a
50mm lens (which was a 60mm lens ! ! !)