

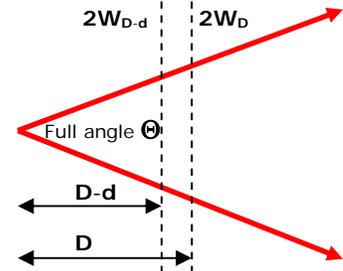


Source to Measurement Plane Distance Determination for Divergence Measurement

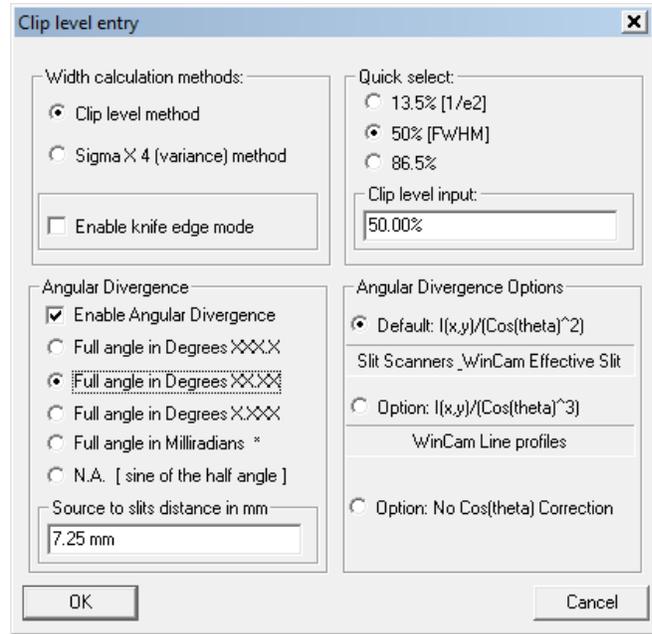
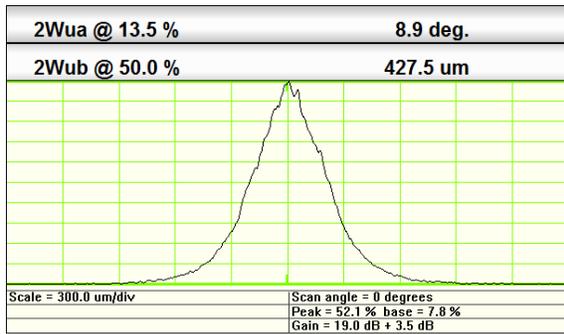
Applies to: All DataRay beam diameter measurement slit-scanner and camera products. Software Ver. 6.00S4s or higher, running under Windows XP with SP2 or Windows Vista.

You are trying to measure: A large beam divergence by measuring the beam diameter at a fixed distance from the source.

You do not know: The exact distance from source to measurement plane.



- 1) Learn to use the measurement instrument.
2) Set the instrument at a distance from the source such that the beam diameter is within its measurement capability.
3) Set Average to Average 20. Measure the FWHM beam diameter 2Wub @ 50%.
4) Using an accurate z stage, preferably with a digital micrometer, move the source towards the instrument.
5) Calculate the unknown z position D from the known values as: D = (2W_D * d) / (2W_D - 2W_{D-d})
6) Calculate the current position of the measurement plane, D - d.
7) Left click on the Clip[a] box at top left on the screen. Enter the D - d value in the Clip level entry dialog box as Source to slits distance in mm.
8) Select Enable Angular Divergence and select a Full angle unit.
9) Press Go and the beam divergence will be measured and displayed.



Problems?

Reread this Application Note. Still no luck? Save a file (per the instructions in the User Manual) and email it with a description of your problem to support@dataray.com.