

Internal report: Study of a DL200 HWDL anode-

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Physical size: 223x223 mm, 310mm diagonal, PCD of M2 mounting screws 305 mm diam.

Wire array: approximately 198 x 198 mm 2/3 wiring (1.5 mm pitch), 1.12 and 1.09 ns/mm

MCP: Hamamatsu chevron 105mm active diameter @2 kV bias

Input: ions from ion gauge at 10k to 100k rate

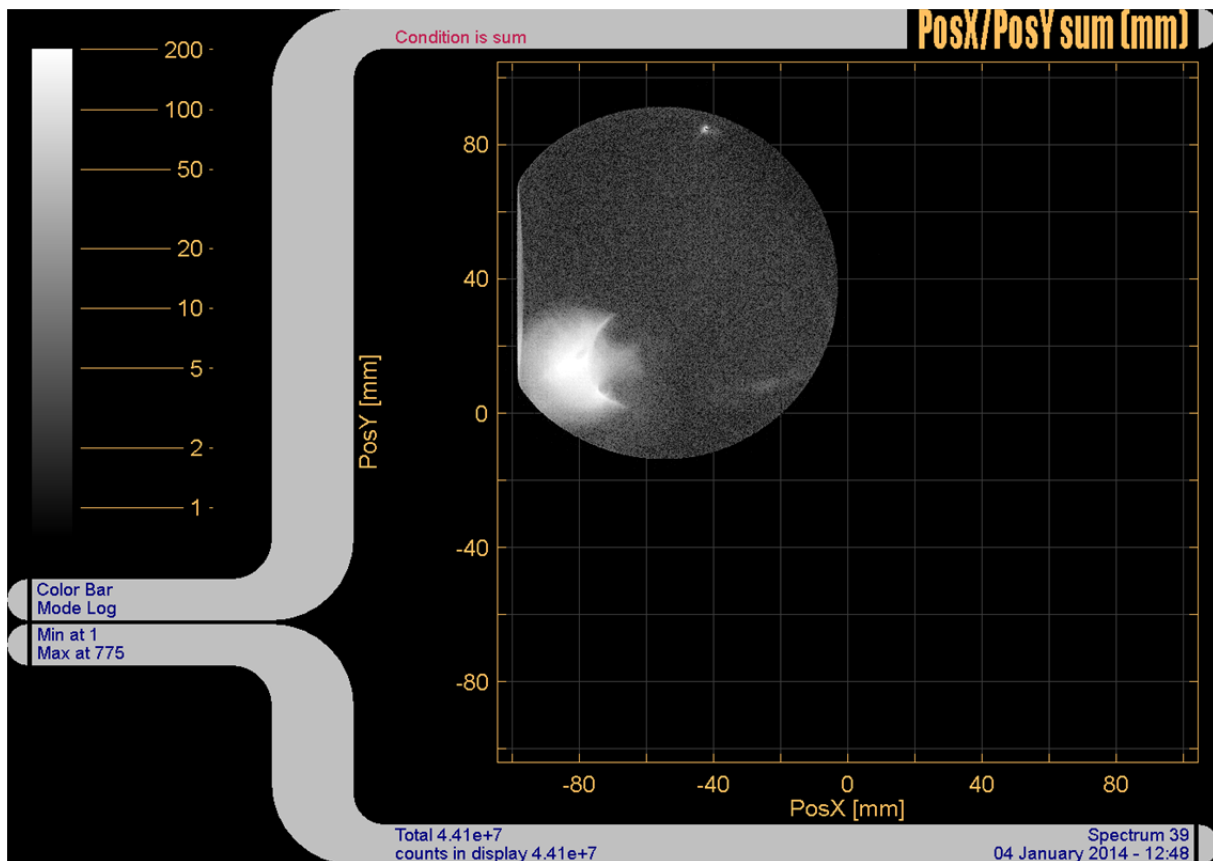


Fig 1: log plot of whole anode area which is only partially covered by the MCP. Intensity varies strongly due to uncontrolled ion optics. Hot spot due to local damage of MCP.

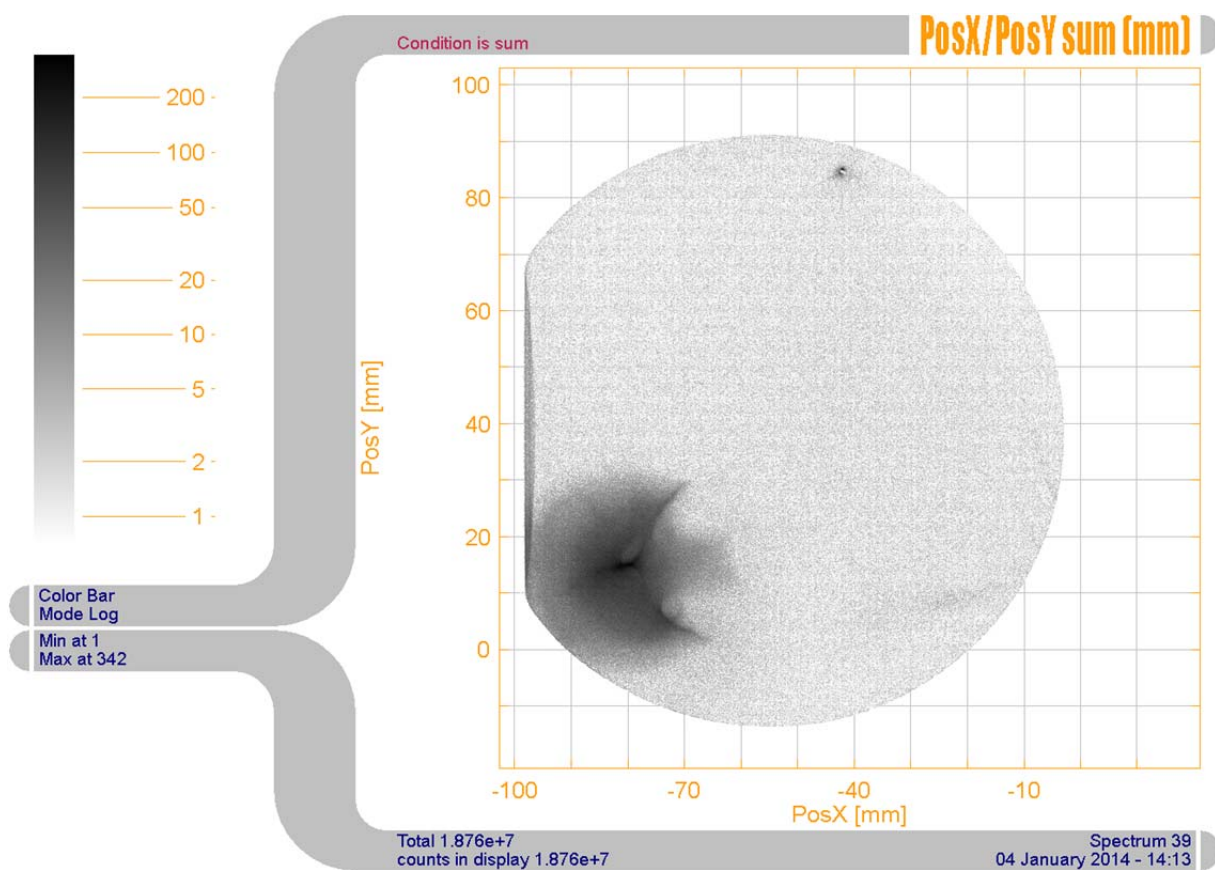


Fig 2: Enlargement of 120mmx120mm from fig. 1 with inverted gray scale

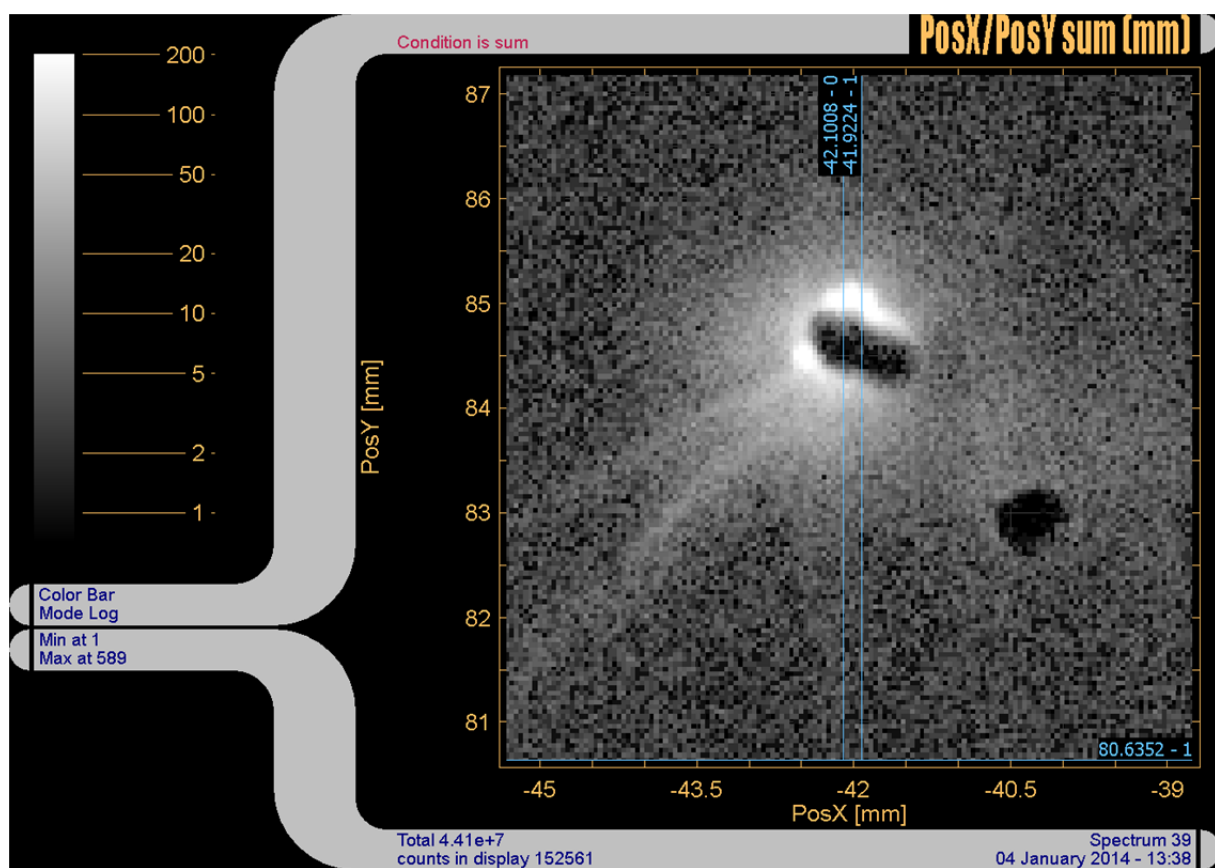


Fig. 3: Enlargement of 7mmx7mm from fig. 1: cut at $x = -42\text{mm} \pm 0.1\text{mm}$ allows resolution estimate.

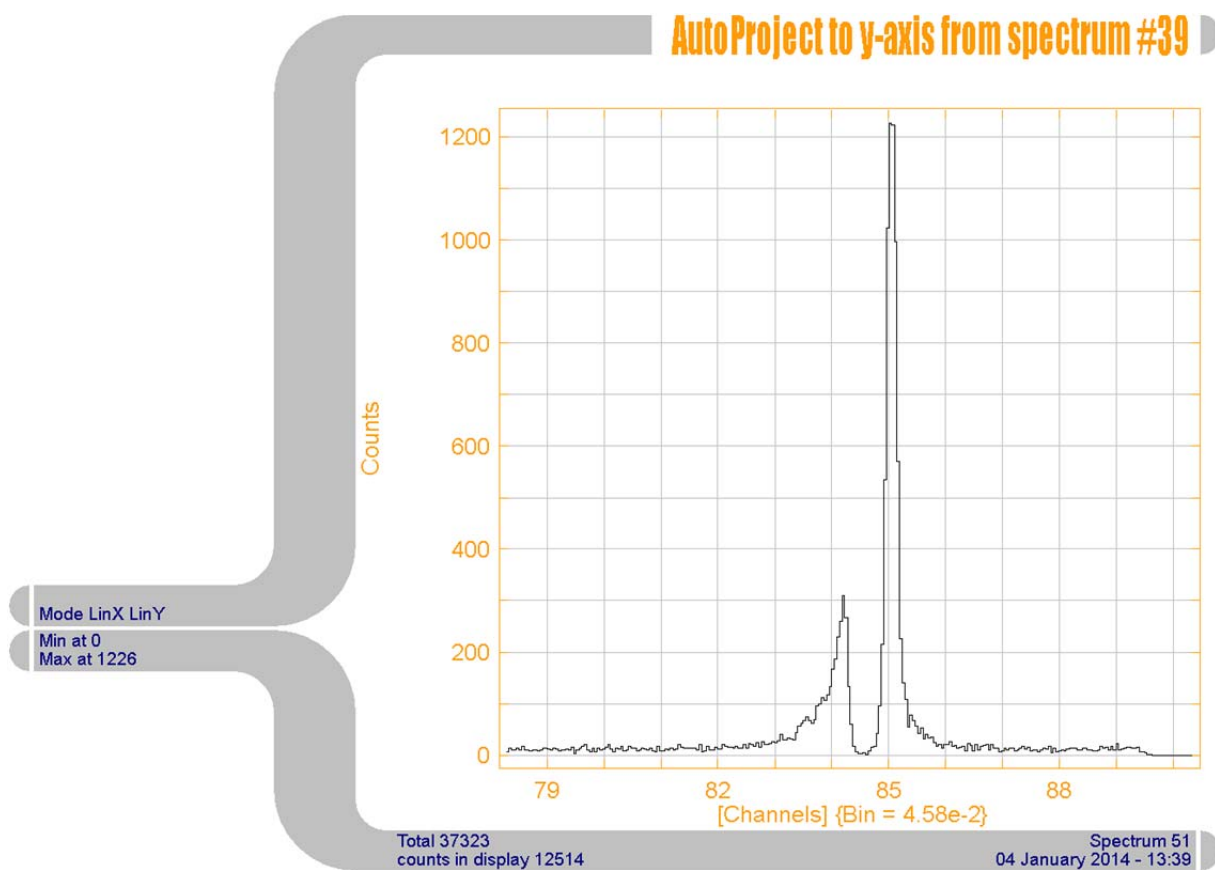


Fig. 4: Line scan: Intensity drop from $\frac{3}{4}$ to $\frac{1}{2}$ within one pixel (45 micron): rms resolution < 60 micron

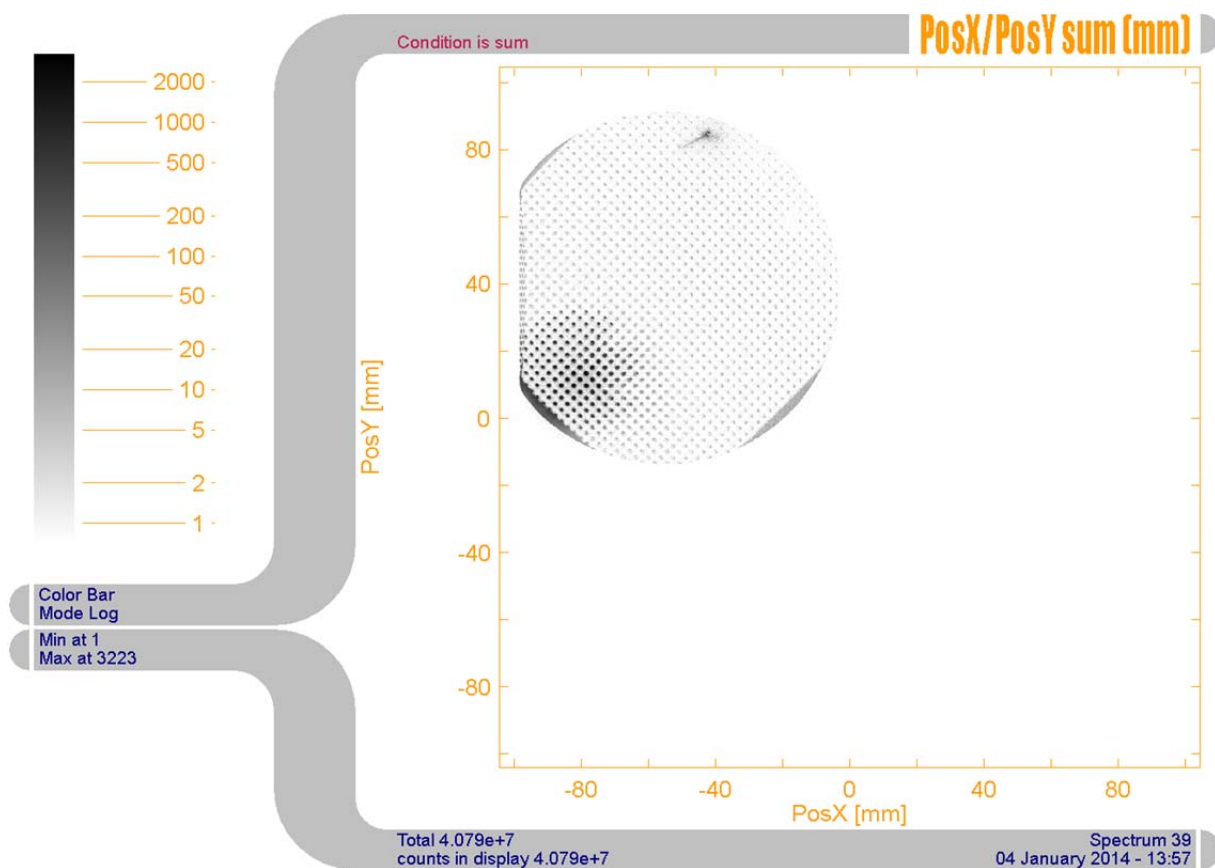


Fig. 5: As fig.1 but MCP masked with array of 1 mm holes at 2.54mm distance (3.6mm diagonal)

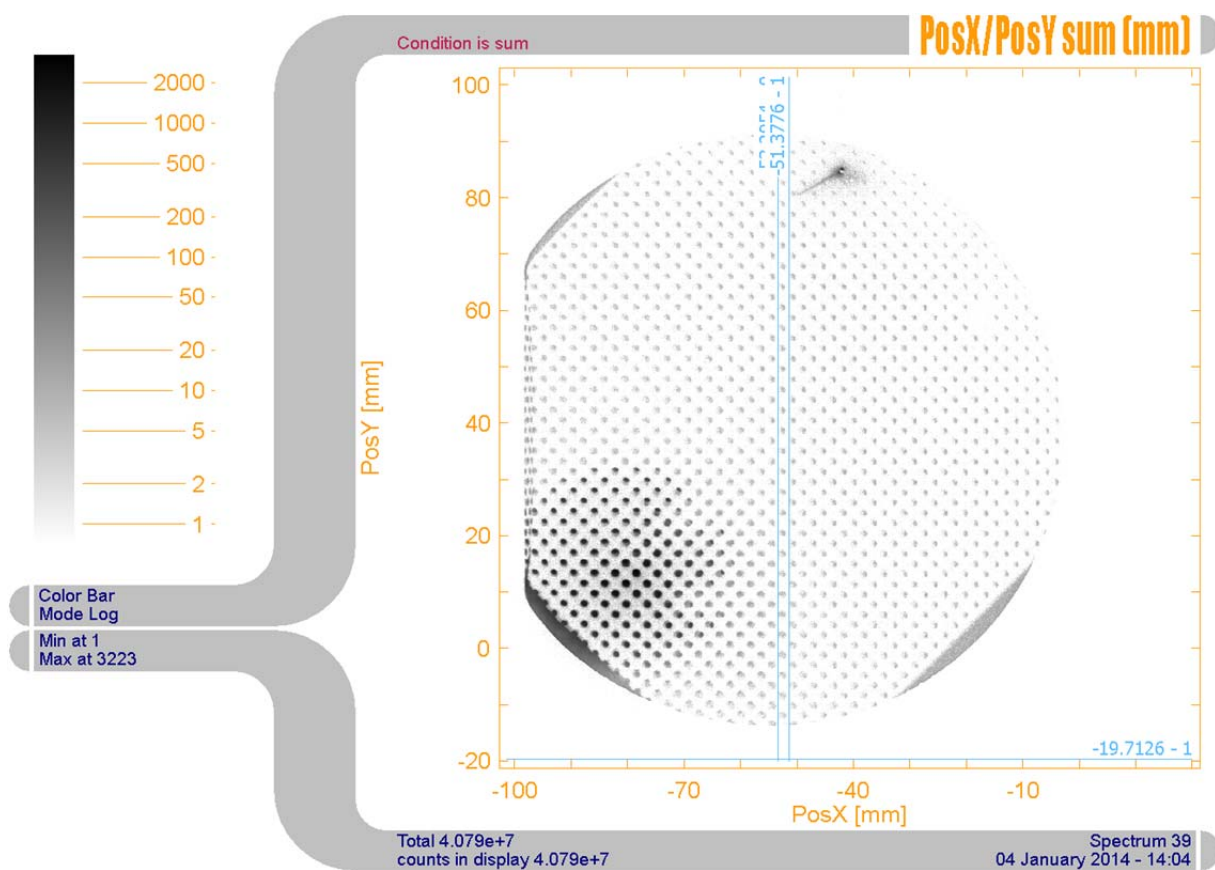


Fig. 6: Enlargement from Fig. 5. Blue lines show cut at $x = -52\text{mm} \pm 1\text{mm}$ used in fig. 6.

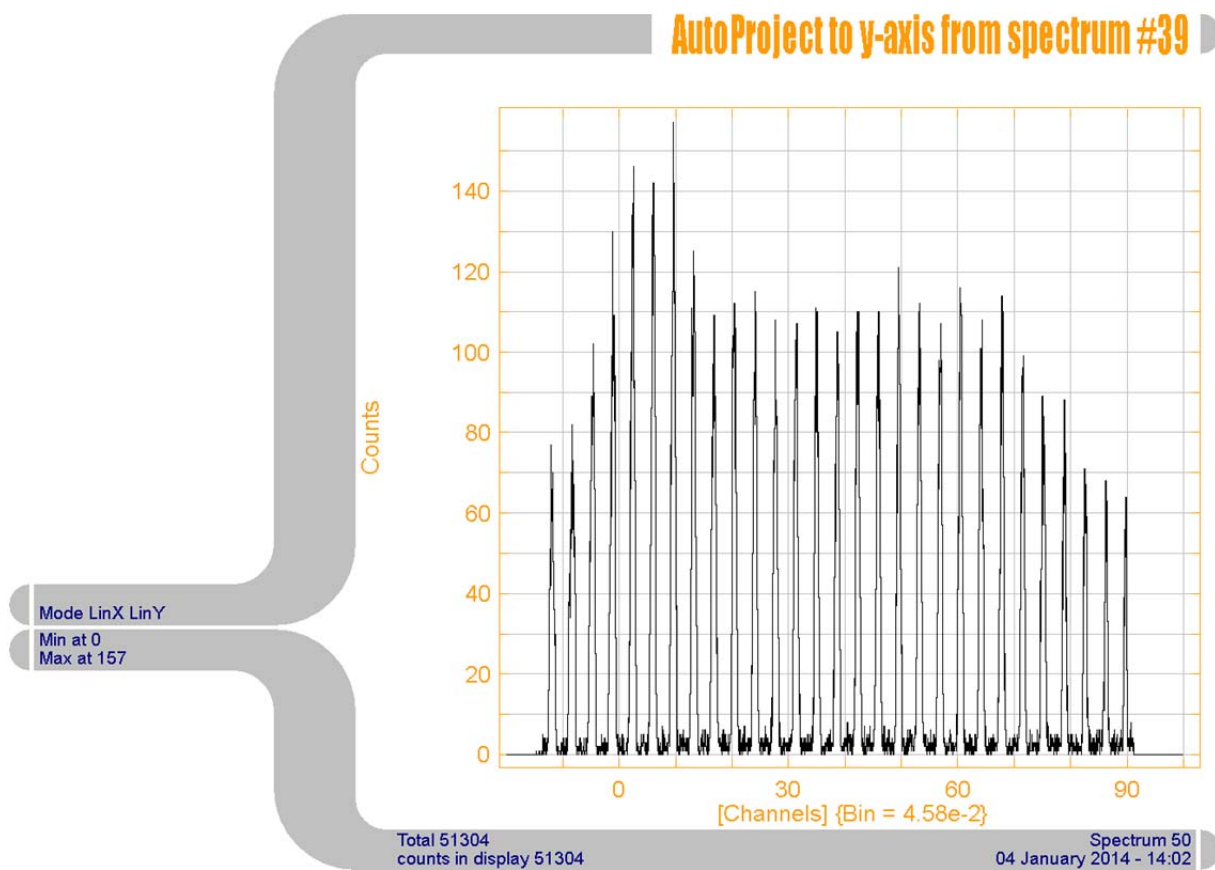


Fig. 7: Line scan from cut in fig. 6.

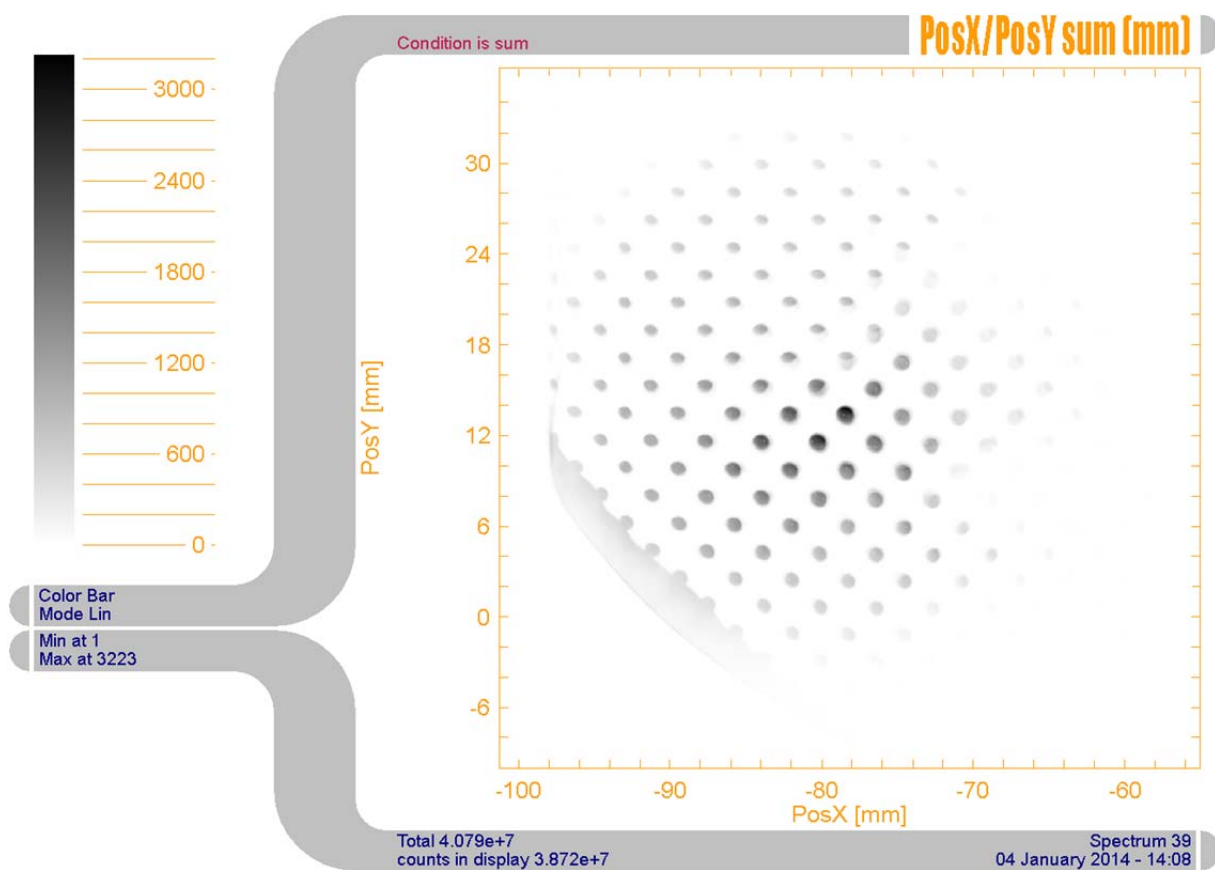


Fig. 8: Enlargement of 45mmx45mm from fig. 5: region with highest intensity (linear plot)

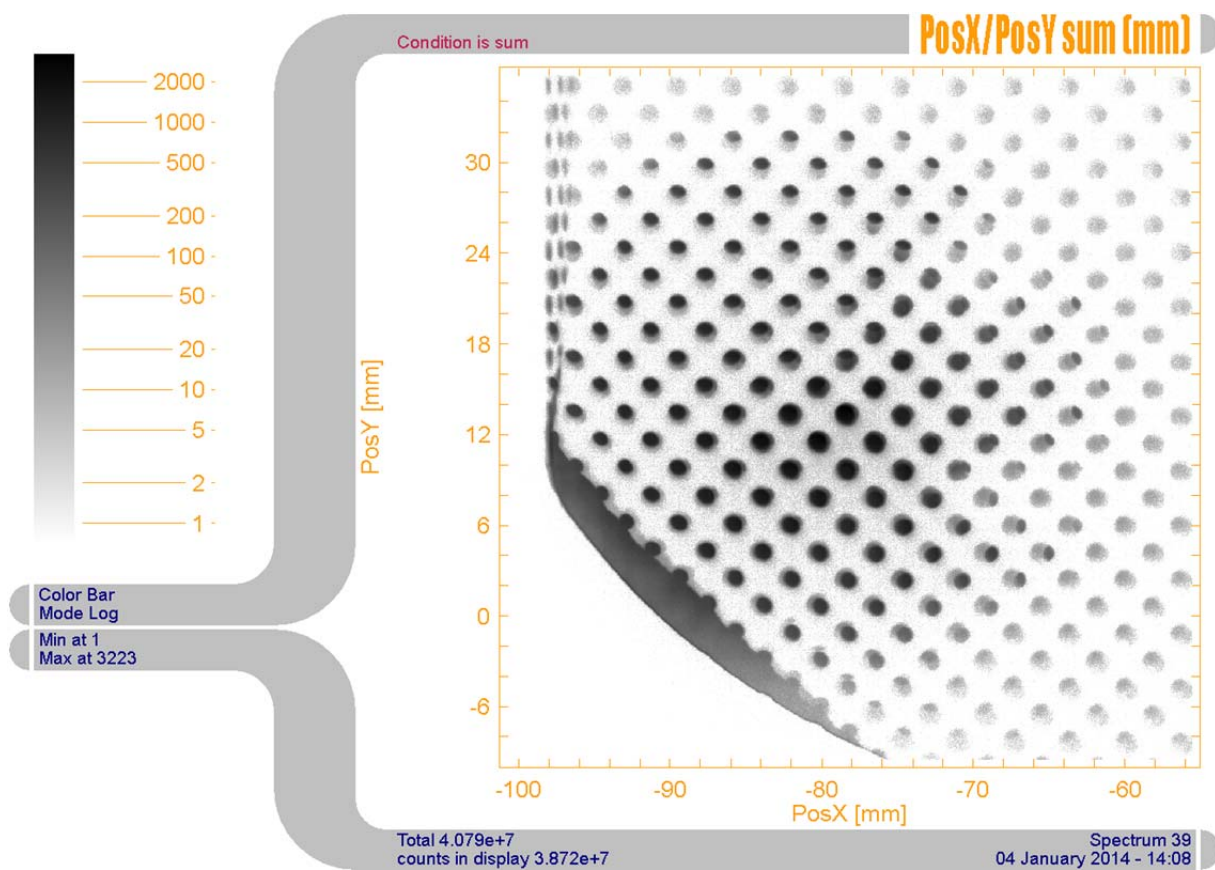


Fig. 9: Log plot from fig. 8.

Delay and shape of single pass signal: DL200x200

