

## **CAPABILITIES OF 50 MICRON MONO-CAPILLARY**

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A mono-capillary is X-Ray convergence optics which realizes high intensity and an almost parallel beam using a total internal reflection technique. We have developed several mono-capillaries with the spot size from 10 microns to 1200 microns to integrate into bench top micro XRF instruments. To cover the gap between 10 and 100 micron spot size we developed a 50 micron capillary and evaluated its capabilities. A 50 micron spot size is required for many applications in electronics, material science, geology and forensics because particles and particulate matter often appear in this size range.

The 50 micron capillary is manufactured in the same manner as the 10 micron capillary and utilizes a high efficiency ellipsoidal shape. This 50 micron elliptical capillary achieves almost the same X-Ray intensity as the usual 100 micron straight capillary and delivers an X-ray beam divergence angle of only 2.3 milliradian at Rh-Ka energy.

We will show the intensity and the good resolution of the 50 micron capillary and compare it with 10 and 100 micron capillaries. Several applications of the new 50 micron capillary will be presented.