

## **OPTICS FOR ANGULAR FILTERING OF X-RAYS IN 2 DIMENSIONS**

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Straight bundles of glass capillaries may be used as angular filters for x-rays. The manufacturing process of these bundles allows a wide range of aspect ratios that can limit the angular divergence of x-rays to less than 0.1 mrad. The open area and thus the transmission efficiency are constant for all aspect ratios and typically 75%. When reflecting glass surfaces are employed the minimal angular divergence is equal to the critical angle for total reflection of x-rays. Non-reflecting glass and surface roughening techniques can increase the angular resolution. Micro channel plates (MCP) use non-reflecting glass surfaces, however the aspect ratio of channel diameter to channel length is rarely better than 5 mrad. Small aspect ratios can also be achieved with crossed Soller optics at the expense of open area.