

PolyCO Techniques Applied on X-ray Analysis

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X-ray analytical techniques are widely used in the world. By the way, due to the strong radiation-matter interaction, to design optical devices suitable for X-ray radiation remains still of wide interest. As a consequence of novel advanced material studies, in the last 30 years several typologies of X-ray lenses have been developed. Nowadays, polycapillary optics (polyCO) is a commonly utilized optical device for a wide variety of applications that operates by collecting X-rays and efficiently propagating them down to the channels by total external reflection in order to form both focused and parallel beams. The development of a compact source-detector system with characteristics to match the requirements of polyCO allows substantial reduction in a size, weight, and power of complete units.

In this short overview presentation we are going to make a comparison of the results achieved by several groups through different X-ray optical elements, paying attention to important beam parameters such as its flux, focal spot-size and divergence.

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