

Microfocusing: capillaries

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Since the start of the commissioning of the microfocus beamline in fall 1992 at ESRF, a long series of tests of capillary optics (CO) have been performed. The main aim of this work has been to develop CO to an operating x-ray optics to be used in real users' experiments. Special care has been taken to reduce background and to have a "solid" mounting.

At the present stage, a combination of an ellipsoidal mirror and CO are used for a large number of user and in-house research experiments, about one third of the total beam time on the beamline. The flux density achieved is larger than 1^{10} photons/s/micron² at 13 keV and 2^{-4} (dE/E) and a beam size of 2 microns.

A brief review of the status of the capillary optics at ESRF will be given, and, in order to illustrate the potential of the optics, an experiment in which scanning XRF and XRD have been performed will be described. This experiment was done on flyash particulates of different origin.