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Lost in transmission? Recent outcomes with fast-framing cameras at the XFM beamline.

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X-ray Fluorescence Microscopy uses a focussed beam and an energy resolving detector to map trace metals at exquisite sensitivity and resolution for a broad diversity of research programmes. For the majority of investigations in the biological and environmental sciences, over 90% of the beam intensity goes straight through the specimen. At a minimum, this beam is detected and used to determine an absorption map of the specimen.

We have recently had an opportunity to use two different x-ray cameras: a PixiRad-1 and and Eiger 1M. Over around 4 weeks of merit beamtime these were used for a wide variety of experiments, including: micro-SAXS, micro diffraction, scanning x-ray diffraction microscopy, differential phase contrast, and to observe Kossel lines. Here we present some results from each of these, along with some cost-benefit analysis of the various camera options for the beamline. Please come and tell us if you have another use for a transmission camera in the microprobe geometry!

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