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Optimal fly-scan trajectories at the AS

Data acquisition at virtually every beamline at the AS involves scanning; however, none more so than the XFM beamline, where every pixel in an image is acquired serially by scanning a specimen through a tightly-focused beam. At XFM, faster scanning means more science.

On-the-fly scanning has significantly improved scan speeds by removing overheads between pixels. However, developments in the past 15 years now require optimisation of the entire scan motion as a sequence of line scans.

We have developed an approach which breaks the motion profile into two components, being a 'measurement motion' ('scan' moves), connected by 'transition motion' ('skip' moves). The Skip-Scan approach provides an efficient platform for implementation of generalised on-the-fly scans that are fully optimised for accuracy and speed. This approach is used for implementation of optimised raster scans at XFM.

Keywords or phrases (comma separated)

XFM, fly-scan, raster scan

Are you a student?

No

Do you wish to take part in</br>the Student Poster Slam?

No

Are you an ECR? (<5 yrs</br>since PhD/Masters)

No

What is your gender?

Male

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