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Supporting information for article:

Simultaneous X-ray fluorescence and scanning X-ray diffraction microscopy at the Australian Synchrotron XFM beamline

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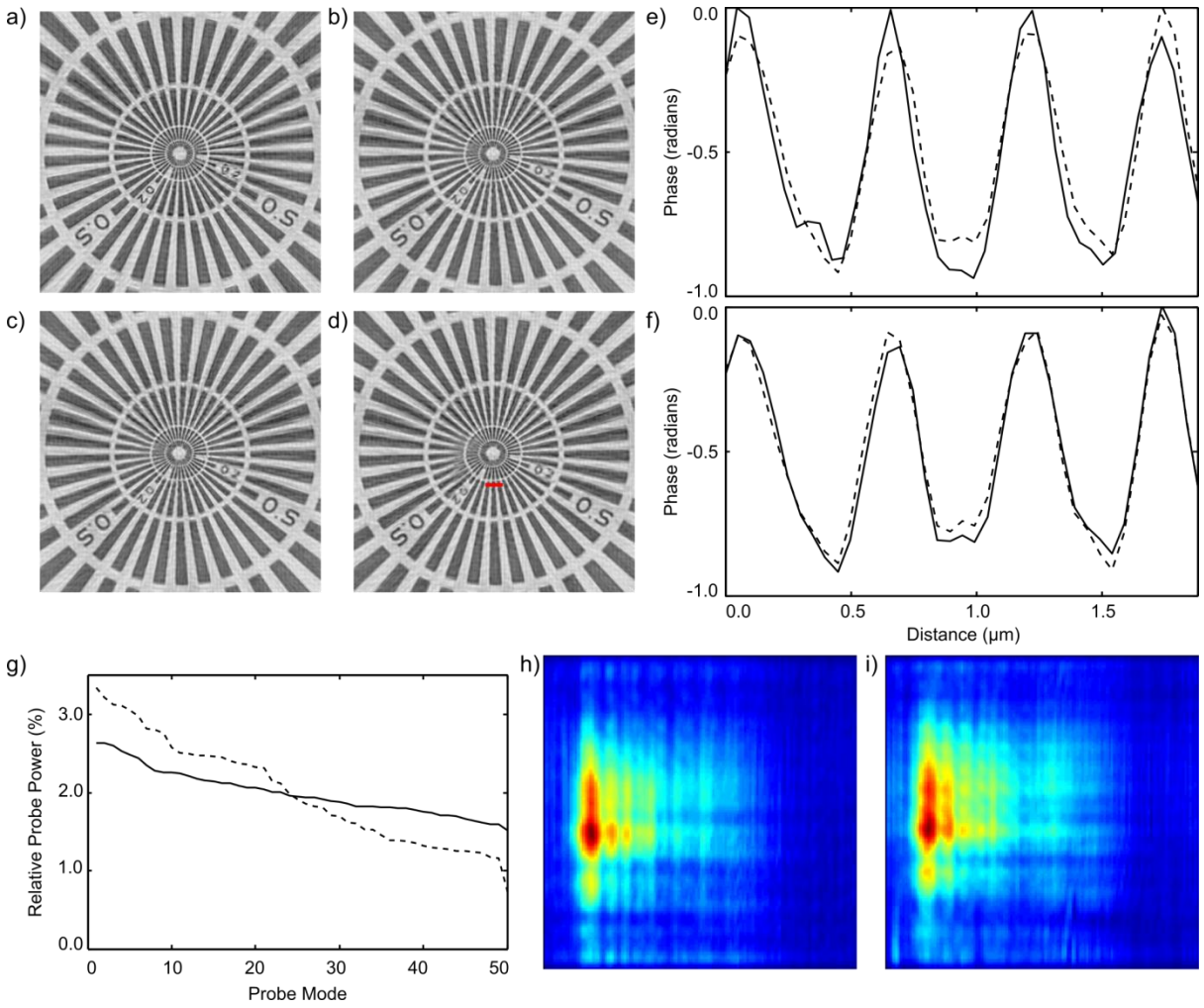

Figure S1 Comparison of reconstructions with 10 and 50 modes for step scan and fly scan data. Reconstructions of step scan data with 10 (a) and 50 (b) probe modes, and fly scan data with 10 (c) and 50 (d) probe modes show minimal qualitative difference. Line profiles from the red line in (d) are depicted for the step scan (e) and fly scan (f) where the solid and dashed lines represent data reconstructed with 10 and 50 probe modes in each case. The power distribution between probe modes for step (solid line) and fly (dashed line) scan reconstructions are shown in (g), and show a similarly even power distribution to the data presented in Fig. 6(e). Interestingly, the fly scan data has more power in the first modes than the step scan. While somewhat counter intuitive, we attribute this to a limited set of common scan velocities, compared to a more random noise like motion about a fixed position as in the step scan. The sum of the intensity of the 50 probe modes is shown in (h) and (i) for step and fly scan data, showing similar features to those presented in Fig. 6(b) and (d).