5.3.2 Polymer STXM: First Tests


CXRO test-pattern imaged at 390 eV

Resolved 40 nm
1:1 features

Resolved 30 nm
1:1 features

Excellent, stable flux: > 1 MHz
Excellent energy resolution: <60 meV

N₂ 1s → π*

2001.97

Some improvements still ahead

Supported by NSF DMR-9975694, DOE DE-FG02-98-ER45737
Dow Chemical and NSERC

First 5.3.2 STXM Results
ALS News Fall 2001.ppt
5.3.2 Spectral Linescans

- No software alignment
- Compensation for runout to better than 40 nm.
- Excellent S/N

PIPA features are ~150 nm. High quality spectra are obtained without using image sequences.

Experiments: T. Tyliszczak, A.P. Hitchcock

For more detail on the science of this sample, see
Ultramicroscopy 88 (2001) 33

Dow Chemical Polyurethane sample
Comparison of “Pointing Precision” of the old BL 7.0.1 STXM and the new 5.3.2 STXM

The waviness is caused by drift of the X-ray spot on the sample due to mechanical limitations.

The two lower 'images' plot spectral linescans measured with each instrument.

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