

Acquisition Conditions Reference Sheet

Note that these parameters should only be considered as the reasonable starting point. Acquisition parameters may be optimized dependent on the instrument or overall experimental goal.

I. Charge Neutralizer Conditions - exact conditions may vary slightly between instruments.

Charge balance (206-302 V)

Filament current (1.6-2.1 A)

Filament Bias (0.9-1.3 V)

II. Spectroscopy (Based on use of **monochromatic** x-ray source)

III.

A. Large area (300 um x 700 um) - slot

Energy Range	Magnification	Pass Energy eV	Step Size eV	Time (min's)
Survey	hybrid	160	1	1 - 3
Region	hybrid	10 or 20	0.1	1 - 10
Valence Band	hybrid	20 or 40	0.2	5 - 20

B. Small area - small area spectroscopy must be referenced from medium magnification images for following spot sizes.

**Spot size	Magnification	*Pass Energy	Step Size eV	Time (min's)
110 um	FOV2	10 - 40	0.1	1 - 4
55 um	FOV2	10 - 40	0.1	1 - 10
27 um	FOV2	20 - 80	0.1	3 - 15
15 um	FOV2	20 - 80	0.1- 0.2	5 - 30

* use 160 eV for surveys

** a predetermined iris setting must be used for each spot size

IV. Imaging (parallel)

A. Elemental

Goal	Magnification	Dewll, s	PE (eV)	Acq. Time (min's)
General Alignment	FOV1	60	160	1
Small area spec. position referencing	FOV2	120	160	1 - 5
Highest lateral Res.	FOV3	180	160	2 - 8

C. **Chemical state** and generating spectra from images

Goal	Magnification	PE (eV)	Acq. Time (min's)
General Alignment	FOV1	40 or 80	1
Small area spec. position referencing	FOV2	40 or 80	1 - 10
Highest lateral Res.	FOV3	40 or 80	3 - 15