

# STEM Beam-Shower

Here is the procedure for setting up the beam-shower condition for the 3200FS. The length of time the beam-shower is used will depend on the sample itself, but it does not appear that beam-showers less than 15 minutes are useful, and I have seen cases where ones as long as an hour are useful.

1. Put the STEM into “spot mode” (the right-most button at the top right in the JEOL Simple Image Viewer window);
2. Open “free lens control” (the second entry under Option in the toolbar across the TEMcon main window);
3. At the bottom of the free lens control window, click the “load” button and double click on the “beamshower.flc” file;

This establishes the beam-shower conditions for the microscope, but you must still remove apertures and such from the beam path;

4. Remove the condenser aperture (CLA open in the aperture control area of the left-hand knobset);
5. Remove the STEM detectors (safety and good practice);
6. To prevent beam damage to the large phosphor screen, insert the smallest entrance aperture: in the aperture control area of the left-hand knobset, select “ENTA” and aperture number 4; this leaves only a small part of the screen exposed to the beam; eliminate even this amount of exposure by shifting the aperture so that the illuminated area moves off the large screen entirely;
7. Leave the microscope in this state for however long is necessary;

When the beam-shower is over, reverse these steps. To return the microscope to the “non-beam-shower” state, simply click the “all off” radio button at the top of the free lens control window.