

Offline EBSD, Short form user Memo

- Please pay attention to the sample height and fix the sample well on the holder to avoid any potential trouble at large angle tilting up to 70 degrees.
- It is recommended to restart both SEM and EBSD PCs to avoid PC communication trouble.
- Recommended EBSD settings: large aperture (Φ 300 μ m), FEG High Current mode, HT 20 keV, 20 mm WD, and tilting angle at 70°.
- Turn on the “Dyn. Focus” and “Tilt Corr.” under the SCANNING → ROTATE/ TILT menu to achieve the maximum focus range.
- Turn off the “Tilt Corr.” and while in the chamber view mode, slowly insert the offline EBSD detector (the offline detector has a blue coloured handle).
- Move to the offline EBSD PC, start the “NorDif” software (which needs about 30 s to start up), and under the “File” menu open a new project.
- Select “Scan Area” and modify the image brightness and contrast from the SEM PC, then click “STOP” and “Finish” to get the interested region.
- Setup the EBSD parameters for “NorDif”. A setting example is given on the next page. The basic rule is that the calibration settings should have a little better resolution than that in the data acquisition settings.
- Collect “Background” for using in EBSD data collection. Choose a suitable EBSD scan step (which is a trade-off between resolution and scanning time).
- Choose the “Cross tool (+)” then right-click the mouse. On the floating menu, activate both “Automatic contrast” and “Background Subtract”.
- Use the “Square tool (\square)” to choose the scan area (as a RED coloured square). Choose the “Cross tool (+)” again, activate “Calibration setting” by right-click mouse. Then collect and save 5 EBSD calibration patterns inside the scan area (4 from the corners and 1 from the centre, all with higher pattern quality).
- Shift to “Acquisition setting” by right-clicking the mouse and select and save one point inside the chosen scan area. Then click “RUN” and wait for the EBSD data collection to be finished.
- When finishing your EBSD work, the EBSD detector must be retracted back first before the sample holder is tilted back, etc.