

Merging X-ray Maps

Procedures for merging (joining) single-element image files (back-scattered-electron or X-ray maps) obtained from mapping of adjacent areas with an electron microprobe:

IrfanView (www.irfanview.com) – For maps acquired with the **JEOL 8900R software**, batch rotate TIF files to right by 90 degrees in Source subdirectory. Do not rotate if JEOL software was not used.

- **File | Batch Conversion/Rename | Batch conversion | output TIF | check Use advanced options | Advanced | check Rotate right | OK | Add all | Start Batch**

ImageJ (<http://rsbweb.nih.gov/ij/docs/guide/146-29.html>) – batch colouring the TIF files of the X-ray intensities (preferably not back-scattered or secondary electron maps) – for details, see the **Colouring X-ray Maps** procedure.

If colour agreement is poor between left and right, then *prior to merge* in Photoshop:

- **Open** both files in ImageJ
- adjust the brightness and contrast for each file: **Image | Adjust | Brightness/Contrast | Auto | Apply**
- **File | Save As | Tiff** (or Jpeg) *place in Target subdirectory*

Photoshop – merge together corresponding left and right images (start with back-scattered electron map denoted by CP, and note final width in pixels – use that for subsequent processing of same series).

- **Open** both files in Photoshop
- **Window | Arrange | Tile All Vertically**
- use Ctrl + or Ctrl – to increase/decrease projected size, if necessary
- for righthand image: **Image | Canvas Size | anchor to left | Width: 2048** pixels (or final width)
- use Rectangular Marquee Tool to select entire left-hand image (or Auto-Select on)
- use Move Tool to drag selected image onto enlarged right-hand canvas
- position left-hand image appropriately on enlarged right-hand canvas
- select entire righthand and lefthand image of interest with Rectangular Marquee Tool
- **Image | Crop**
- **File | Save As | *.tif | no layers**