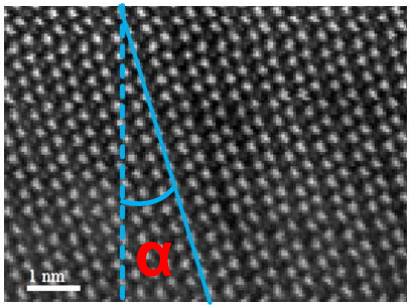
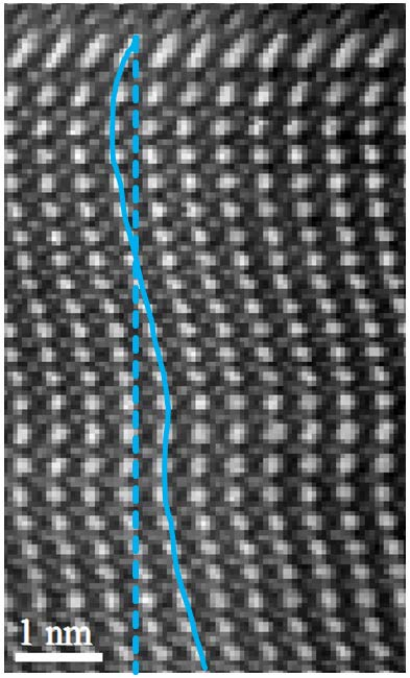
Distortion in STEM Spectrum imaging (SI) ?

It works for 2 types of distortion in STEM SI:

(a) linear distortion

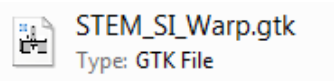


(b) nonlinear distortion

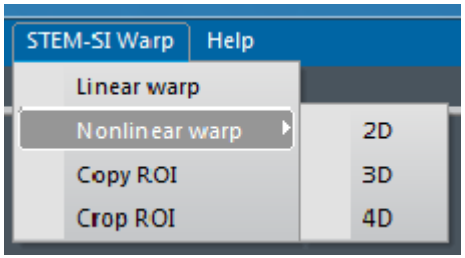


How to install and use?

Copy the gtk file into the DM plugin folder. (for the nonlinear a HREM mouse plugin is required)



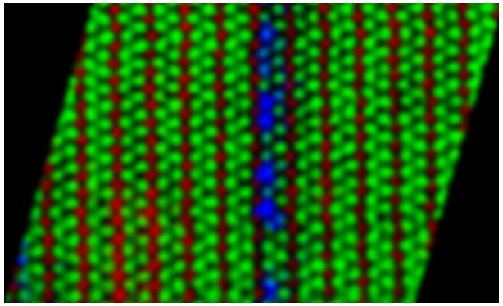
The scripts will appear under [STEM-SI Warp] menu:



(a) For linear distortion:

1. Select script "linear warp"
2. Input the angle α [Positive: Warp to left; Negative Warp to right]
4. Copy the ROI, and crop ROI

This Script works for 2D - 4D images!



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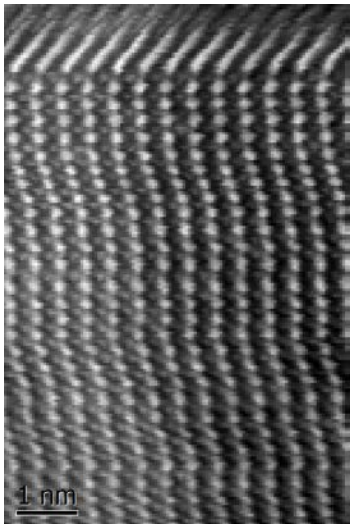
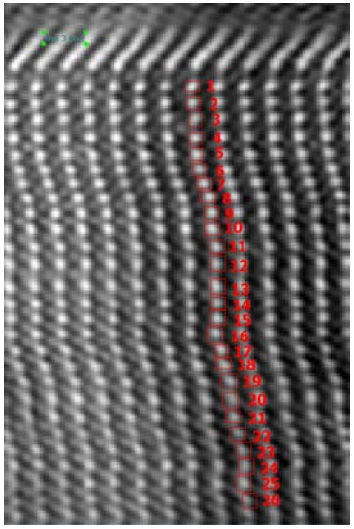
(b) For nonlinear distortion:

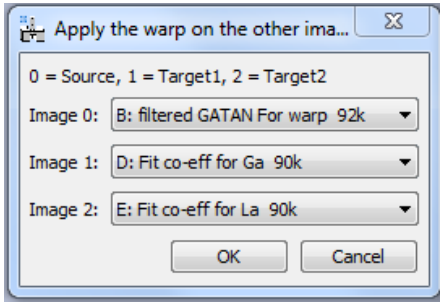
1. Use HREM mouse tool to select the atomic columns that you want to align to a straight line





2. Select script “nonlinear warp -2D” , Image 0: select the marked ADF image, Image 1 and 2: the element maps

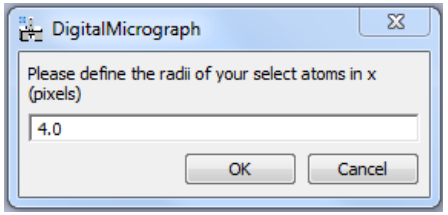
If you want to warp multi-dimensional data, select 3D or 4D accordingly !



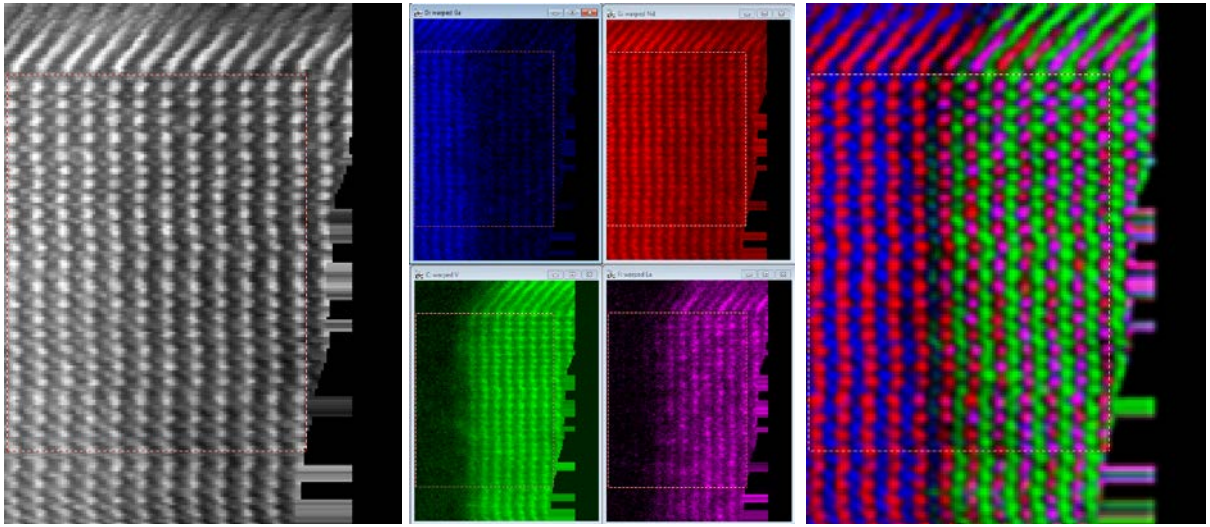
4. Repeat on other elements maps

That‘s it !

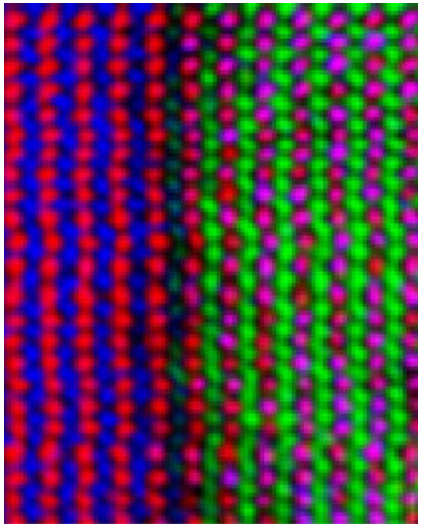
3. Input the pixel size for atomic column locating



You will get warped ADF image and element map



Use copy ROI and crop ROI script to Crop the area of interest.



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