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Mag distortion correction effect on FFT

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jamonshi

Mag distortion correction effect on FFT

With distortion parameter attached applied for importing movie, there are pronounced white strips in FFT later, which might due to subtle lines along the edge of final averaged image. Although the CTF result seems not affected by which. As comparison, none of these shown up in the image without applying distortion correction.

So far, the 3D results seems have no significant differences, both reach 2.9A. The uncorrected is actually a little better visually.

Cheers,

Jian

File:

movieImport.png
withDistCorr.jpg
woDistCorr.jpg

timgrant

Hi Jian,

Hi Jian,

Yes this line looks like a bug - thank you for reporting it, hopefully it can be fixed in the next release.

The distortion correction is done in real space using a linear interpolation, this will lead to some dampening on the high resolution information. The way we generally account for this is to take images at super resolution, then resample (bin) them by a factor of 2. In this case, most of the interpolation artifacts will be removed - but it looks like you aren't doing any resampling, so I would expect some slight dampening for you. Your distortion is relatively small, so if your protein is not very large then the distortion correction will not lead to any real gain, and indeed it may be worse to do the distortion correction.

Cheers,

Tim

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