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Tue, 01/15/2019 - 16:46


#1

qiaoqii

Stripes in 3D refinement result

I am working on a scaled and merged dataset, when running 3D refinement, I see stripes across the background (image attached). I used relion scaling one particle set (300keV) from 1.06 A/pix to 1.17 A/pix and merge it with another 1.17 A/pix particle set (200keV), then imported to cisTEM. I did not see such stripes in 2D classification results, but only 3D refinement. Any parameter I should adjust? Thanks!

File:

 [Capture.PNG](#)

niko

This looks a bit strange.

This looks a bit strange. Does your dataset have a strongly preferred orientation, or are there some very bright/dark pixels in some of the images? Sometimes, when picking with Relion, particles near the edge of a micrograph contain "empty" pixels with values that are not set to a sensible value. Have you checked that particle boxes are completely contained in the micrographs, or that areas outside micrographs are filled with sensible values?

Tue, 01/15/2019 - 18:31 (Reply to #2)

qiaoqii

The particles do have a

The particles do have a preferred orientation, but I did not see such issue when processing individual dataset, it only happened after I merged them. The particles I used are picked after 2D, I think very bright/dark pixels should be aligned there if exist. Also the particles do not contain area outside micrograph. I am wondering if it has something to do with the `relion_image_handler` command I used in rescaling and reboxing the particles, will check the edge pixels and maybe rebox it into a smaller size and check 3D result again.

timgrant

Hi,

Hi,

This looks to me like there aren't many particles? How many particles are there? Or was the percentage used set low? or the score threshold set low?

Thanks!

Tim

Fri, 01/18/2019 - 10:40 [Reply to #4](#)

qiaoqii

282k particles, the stripes

282k particles, the stripes start to show in round 3 and get worse in later rounds. I used default settings for the percentage and threshold, so it is possible in round 3 fewer particles are used in alignment, but the same issue did not happen before I merge the particle sets.

Qi

timgrant

Hi,

Hi,

I am not sure what is the cause of this. Would you be able to share the particle stack so we could investigate further?

Tim

Mon, 01/21/2019 - 16:48 [\(Reply to #6\)](#)

qiaoqii

Sorry, I am not able to share

Sorry, I am not able to share the data, will look into the particle set and post the cause if spot it. Thanks!

Qi

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