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# import particle picking info from external program

Mon, 12/17/2018 - 14:22

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xuchen

import particle picking info from external program

Dear All,

I try to pick particle for helical object using eman2 and I want to import back the information, e.g., mrc stacks. I wonder what is a good way of doing it. How can I link the particle/micrograph info with CTF calculated in cisTEM.

Has anyone had a simple protocol / pipeline how to deal with helical object using cisTEM?

Thanks -Chen





timgrant

Hi Chen,

Hi Chen,

You can import your particle positions in cisTEM (particle positions asset panel -> Import). Then you can use cisTEM to cut the particles out and you will get all the CTF info etc.

The format for the file you need to import is described here :-

<https://cistem.org/documentation#tab-1-3>

Thanks!

Tim







mjholliday

Hi Chen,

Hi Chen,

I recently worked with helical filaments in cisTEM, and I can share how I managed the import. If you used e2heliboxer to pick filaments, you'll need to convert the filament positions to particle positions. I used relion2 for this process, yielding a .star file that includes the micrograph name and individual particle positions. From here, you need to convert the .star into the format linked to by Tim above for import into cisTEM. I'll note a bug that I encountered when doing this: Using the 2nd format listed [micrograph name, x-coordinate, y-coordinate], which is easily generated from the .star file, I found that the import proceeded prohibitively slowly (~10 s. per particle). I managed to get around that by generating the first file format, but this was a bit trickier, as I couldn't find an easy way to generate a list of micrograph names and the associated cisTEM asset numbers from the GUI. Ultimately I used sqlite to directly pull the Images table from the cisTEM database, though there may be a more straightforward way to go about this. Once the particle positions were in the first format [Asset ID, x-coordinate, y-coordinate], the entire import completed in under 1 min.

One point of caution in importing this way is that you lose all information about the filament and orientation originally contained within the .star file from relion. I ended up finalizing my structure in frealign that includes helical processing and had to combine the original relion .star file, along with the cisTEM exported .star file to modify the cisTEM generated frealign .par file to including the original filament numbers.

Not sure if this qualifies as a 'simple protocol', but it ended up working out - Good luck!

Cheers,

Mike





mehta\_v

Exportng 2D back to relion

Dear cisTEM community,

I have imported some particles from relion to cisTEM for 2D classification as it works much faster. Now that I have cleaned up my particle I would like to export it back to relion and process in parallel to see what works best (3D and onwards)

My question is, while exporting back to relion (where I did motioncorr and picking), would I preserve my particle coordinates?

many thanks in advance.

Best

Ved



Fri, 12/06/2019 - 12:25 (Reply to #4)



timgrant

Hi Ved,

Hi Ved,

This information is not imported, so it won't be available on export.

This thread may help if you are prepared to do a bit of manual work :-

<https://cistem.org/micrograph-name-after-cistem-refinement>

Thanks,

Tim

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