



Full wwPDB EM Validation Report ⓘ

Oct 22, 2024 – 05:07 pm BST

EMDB ID : EMD-51423
Title : Tomogram of pyrenoid of *T. pseudonana* Shell4 knock-out
Authors : Demulder, M.; Engel, B.
Deposited on : 2024-08-25
Resolution : Not provided

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMTomogramValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

EMDB validation analysis : 0.0.1.dev113
Validation Pipeline (wwPDB-VP) : 2.39

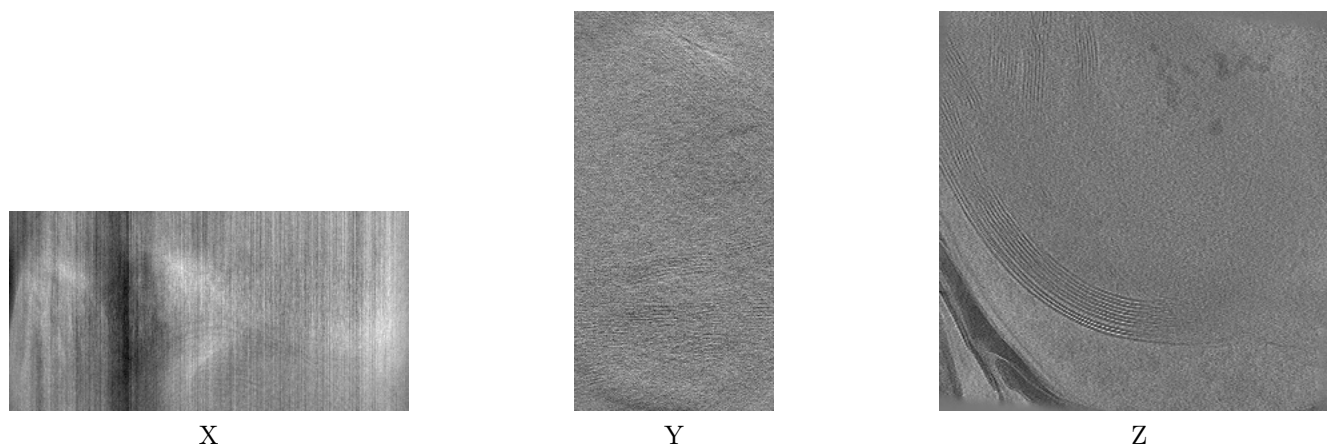
1 Experimental information

| Property | Value | Source |
|--------------------------------------|---------------------------|-----------|
| EM reconstruction method | TOMOGRAPHY | Depositor |
| Imposed symmetry | Not Provided | |
| Number of tilted images used | 60 | Depositor |
| Resolution determination method | Not provided | |
| CTF correction method | Not provided | |
| Microscope | TFS KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 2.0 | Depositor |
| Minimum defocus (nm) | 0.003 | Depositor |
| Maximum defocus (nm) | 0.003 | Depositor |
| Magnification | Not provided | |
| Image detector | FEI FALCON IV (4k x 4k) | Depositor |
| Maximum voxel value | 1.800 | Depositor |
| Minimum voxel value | -1.882 | Depositor |
| Average voxel value | 0.030 | Depositor |
| Voxel value standard deviation | 0.235 | Depositor |
| Recommended contour level | Not applicable | |
| Tomogram size (\AA) | 9748.48, 9748.48, 4874.24 | wwPDB |
| Tomogram dimensions | 1024, 1024, 512 | wwPDB |
| Tomogram angles ($^\circ$) | 90.0, 90.0, 90.0 | wwPDB |
| Grid spacing (\AA) | 9.52, 9.52, 9.52 | Depositor |

2 Tomogram visualisation [i](#)

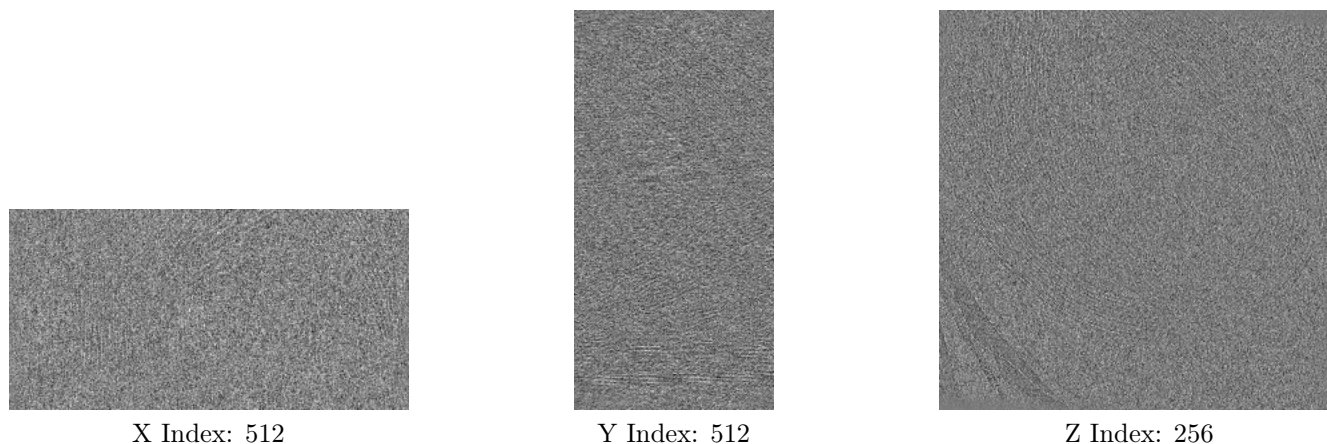
This section contains visualisations of the EMDB entry EMD-51423. These allow visual inspection of the internal detail of the tomogram and identification of artifacts.

2.1 Orthogonal projections [i](#)



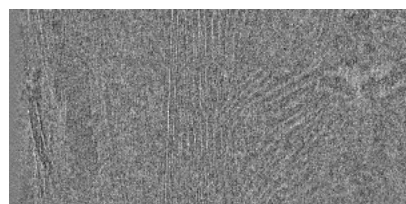
The images above show the tomogram projected in three orthogonal directions.

2.2 Central slices [i](#)

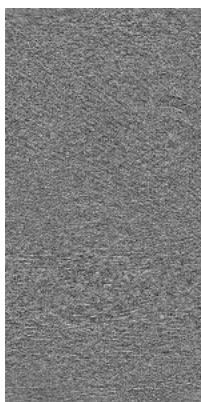


The images above show central slices of the tomogram in three orthogonal directions.

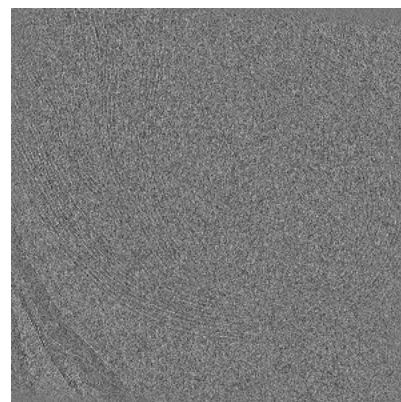
2.3 Largest variance slices [i](#)



X Index: 143



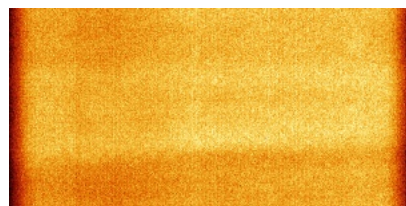
Y Index: 900



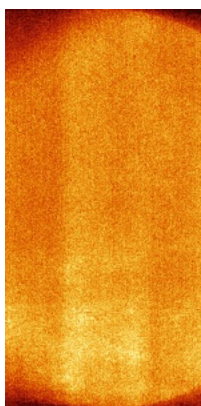
Z Index: 173

The images above show the largest variance slices of the tomogram in three orthogonal directions.

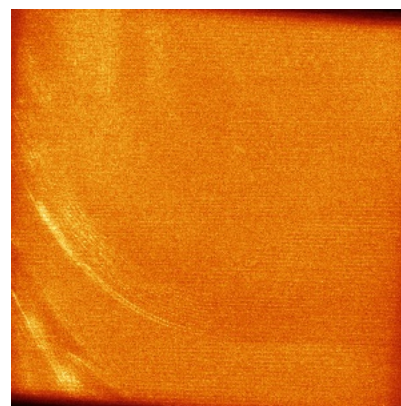
2.4 Orthogonal standard-deviation projections (False-color) [i](#)



X



Y



Z

The images above show the tomogram projected in three orthogonal directions.

2.5 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

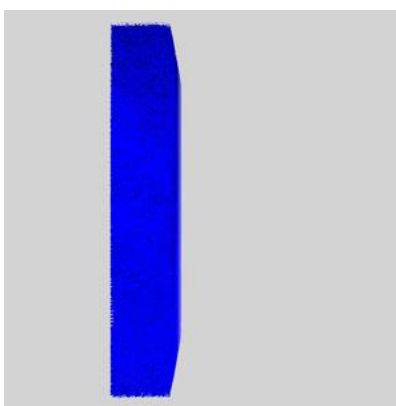
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

2.5.1 emd_51423_msk_1.map [i](#)



X



Y

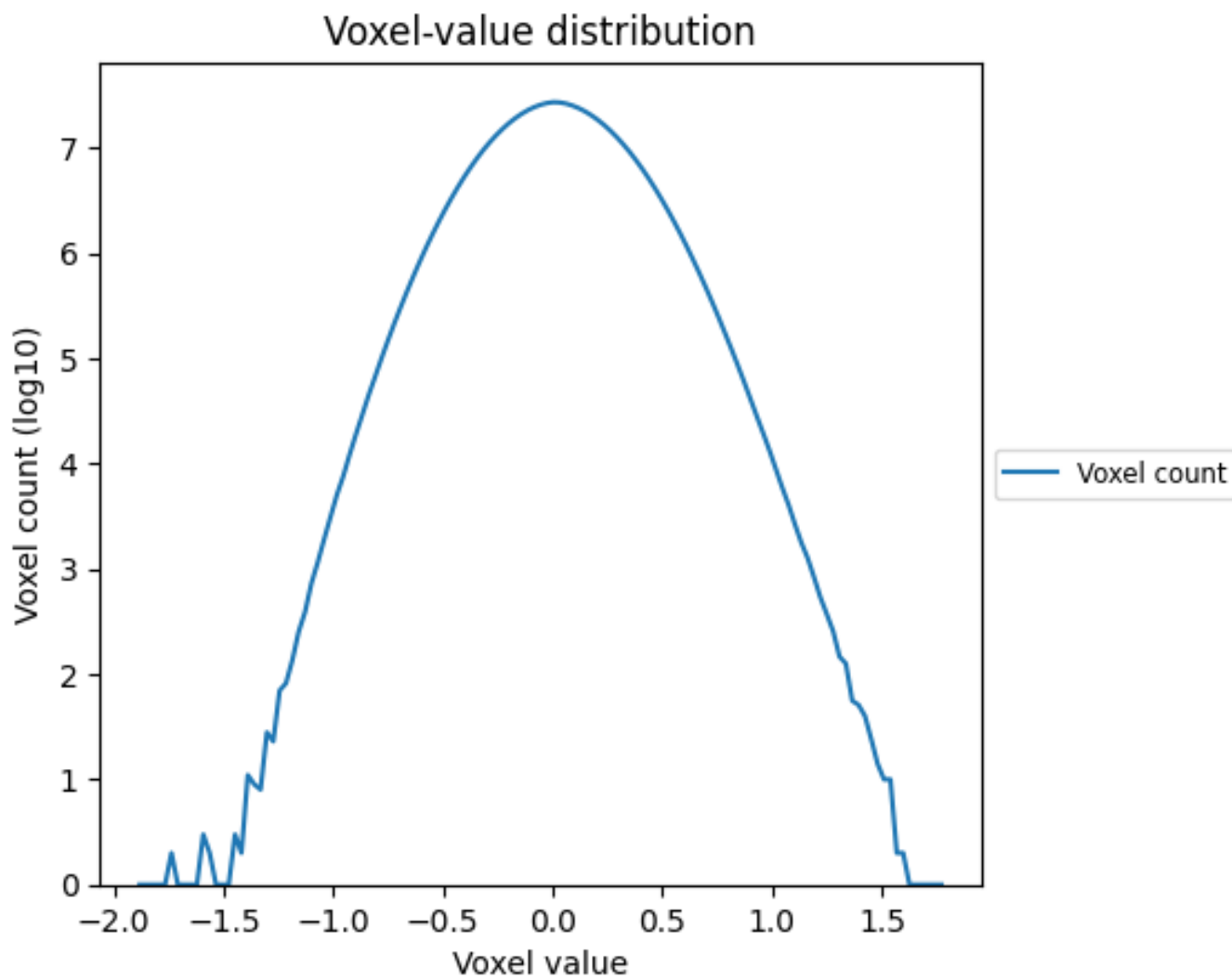


Z

3 Tomogram analysis [i](#)

This section contains the results of statistical analysis of the tomogram.

3.1 Voxel-value distribution [i](#)



The voxel-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic.