



wwPDB EM Validation Summary Report ⓘ

Aug 11, 2025 – 10:02 AM EDT

EMDB ID : EMD-46401
Title : A non-averaged 3D density map of an individual particle, with a 2D lattice formed by octahedral DNA origami and ferritin, was revealed by individual particle cryo-electron tomography (Particle #332).
Authors : Liu, J.; Ren, G.
Deposited on : 2024-08-05
Resolution : 77.00 Å(reported)

This is a wwPDB EM Validation Summary 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.dev126
Validation Pipeline (wwPDB-VP) : 2.45.1

1 Experimental information

| Property | Value | Source |
|--------------------------------------|--|-----------|
| EM reconstruction method | TOMOGRAPHY | Depositor |
| Imposed symmetry | Not Provided | |
| Number of tilted images used | 1 | Depositor |
| Resolution determination method | FSC 0.5 CUT-OFF | Depositor |
| CTF correction method | The Contrast Transfer Function (CTF) was determined by Gctf and then corrected by TOMOCTF. | Depositor |
| Microscope | FEI TITAN KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 6.0 | Depositor |
| Minimum defocus (nm) | 2.0 | Depositor |
| Maximum defocus (nm) | 2.0 | Depositor |
| Magnification | 53000.0 | Depositor |
| Image detector | GATAN K3 BIOQUANTUM (6k x 4k) | Depositor |
| Maximum voxel value | 3.286 | Depositor |
| Minimum voxel value | -0.891 | Depositor |
| Average voxel value | 0.076 | Depositor |
| Voxel value standard deviation | 0.288 | Depositor |
| Recommended contour level | Not applicable | |
| Tomogram size (\AA) | 747.52, 747.52, 747.52 | wwPDB |
| Tomogram dimensions | 256, 256, 256 | wwPDB |
| Tomogram angles ($^\circ$) | 90.0, 90.0, 90.0 | wwPDB |
| Grid spacing (\AA) | 2.92, 2.92, 2.92 | Depositor |

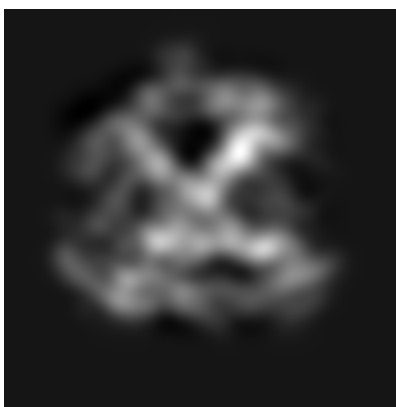
2 Tomogram visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-46401. These allow visual inspection of the internal detail of the tomogram and identification of artifacts.

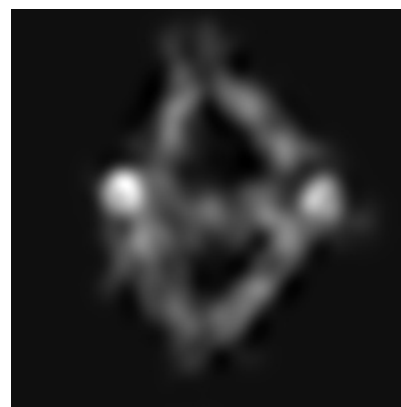
2.1 Orthogonal projections [i](#)



X



Y



Z

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

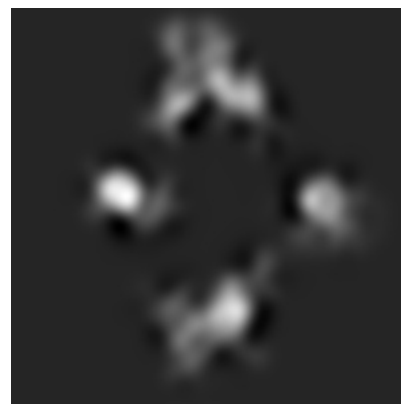
2.2 Central slices [i](#)



X Index: 128



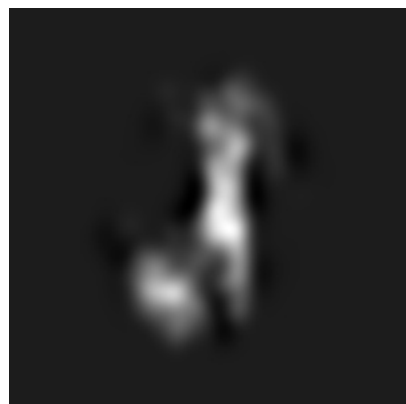
Y Index: 128



Z Index: 128

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

2.3 Largest variance slices [i](#)



X Index: 73



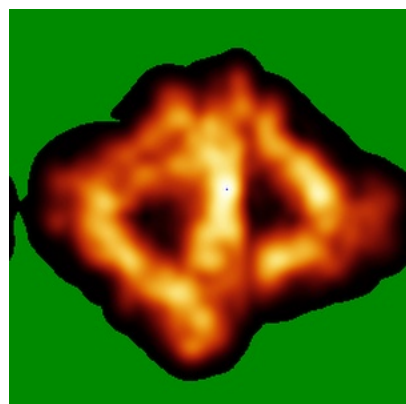
Y Index: 134



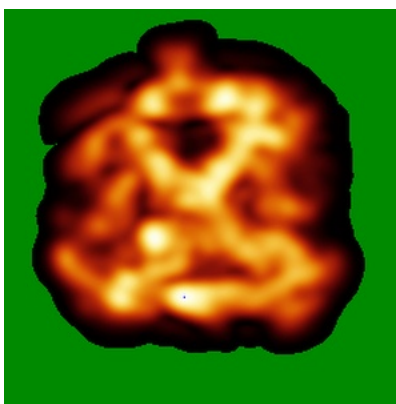
Z Index: 142

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

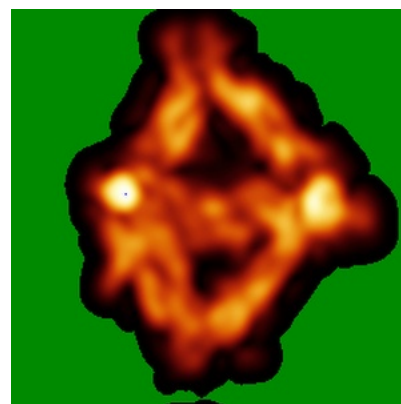
2.4 Orthogonal standard-deviation projections (False-color) [i](#)



X



Y



Z

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

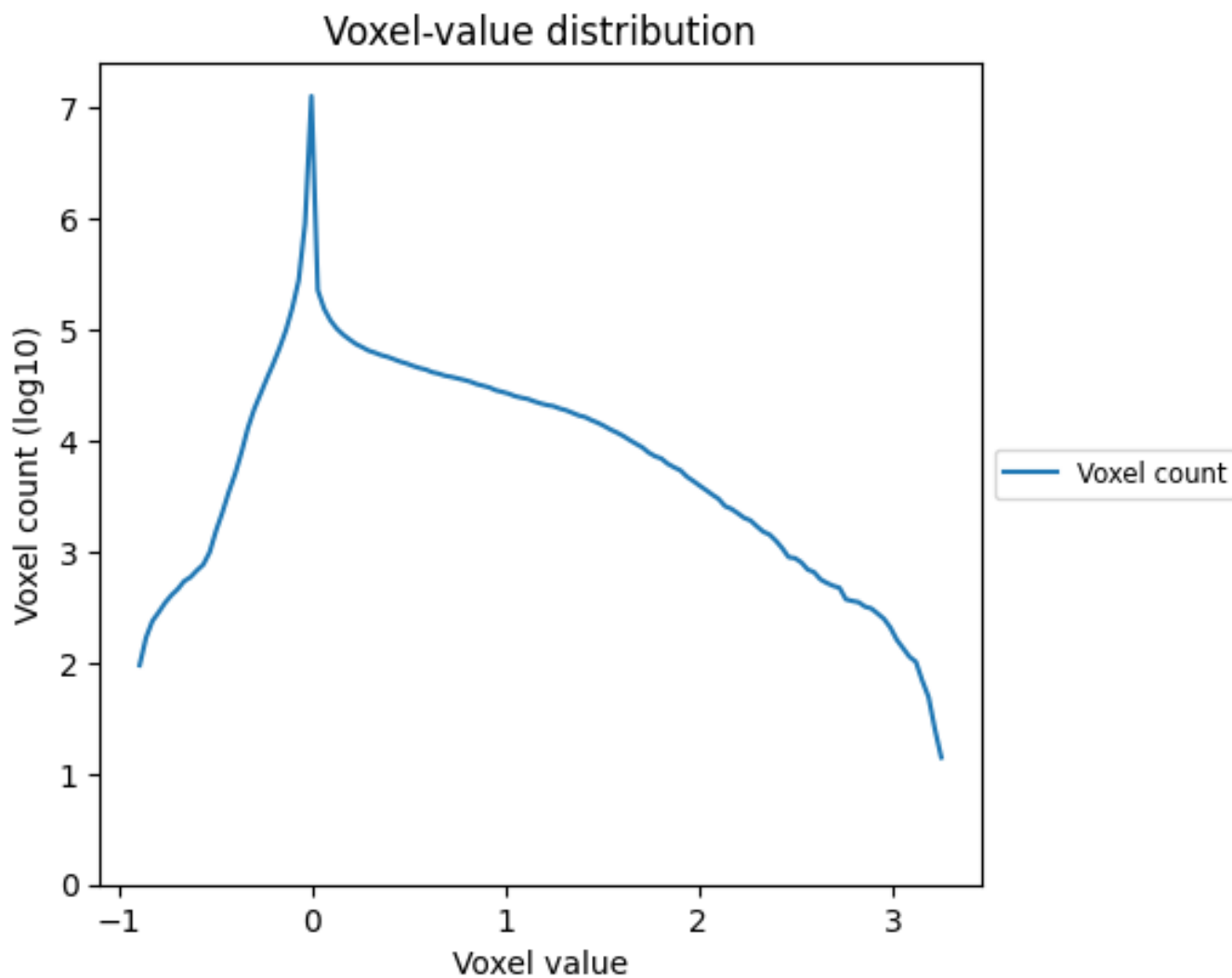
2.5 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

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.