Resource Summary Report

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Brain Observatory Storage Service and Database (BossDB)

RRID:SCR_017273
Type: Tool

Proper Citation

Brain Observatory Storage Service and Database (BossDB) (RRID:SCR_017273)

Resource Information

URL: https://bossdb.org/

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Description: BossDB (Brain Observatory Storage Service and Database) is a cloud-based ecosystem for the storage and management of public large-scale volumetric neuroimaging and connectomics datasets. This includes volumetric Electron Microscopy and X-Ray Micro/Nanotomography data with support for multi-channel image data, segmentations, annotations, meshes, and connectomes. BossDB integrates with community resources for data access, processing, visualization, and analysis, and includes an API that enables metadata management, rendering, datatype conversions, and ingest.

Abbreviations: BossDB, bossDB, BOSS DB

Synonyms: Brain Observatory Storage Service, bossDB, Block and Object Storage Service, BOSSDB, Block and Object Storage Service Database, Brain Observatory Storage Service and Database, BossDB

Resource Type: 3d spatial image, data or information resource, data repository, database, image, service resource, storage service resource

Defining Citation: DOI:10.1101/217745

Keywords: Johns Hopkins University Applied Physics Laboratory, JHU/APL, database, electron microscopy, xray, data, storage, archive, BRAIN Initiative, EM, XRM, XNH, ecosystem

Funding: BRAIN Initiative ;
NIMH R24 MH114785

Availability: Open

Resource Name: Brain Observatory Storage Service and Database (BossDB)

Resource ID: SCR_017273

Alternate URLs: https://github.com/jhuapl-boss/boss/

Record Creation Time: 20220129T080334+0000

Record Last Update: 20260829T182533+0000

Ratings and Alerts

No rating or validation information has been found for Brain Observatory Storage Service and Database (BossDB).

No alerts have been found for Brain Observatory Storage Service and Database (BossDB).

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 31 mentions in open access literature.

Listed below are recent publications. The full list is available at ASWG .

Matelsky JK, et al. (2026) Physical contact reveals a hidden layer of cortical architecture. bioRxiv : the preprint server for biology.

Xu YKT, et al. (2026) Brain-wide mapping of oligodendrocyte organization, oligodendrogenesis, and myelin injury. Cell, 189(5), 1535.

, et al. (2025) Functional connectomics spanning multiple areas of mouse visual cortex. Nature, 640(8058), 435.

Martinez H, et al. (2025) Using BossDB Tools to Access, Visualize, and Share Volumetric Neuroscience Data. Current protocols, 5(10), e70247.

Elabbady L, et al. (2025) Perisomatic ultrastructure efficiently classifies cells in mouse cortex. Nature, 640(8058), 478.

Rivlin PK, et al. (2025) Comparative Connectomics Highlights Conserved Architectural Synaptic Motifs in the Drosophila Mushroom Body. bioRxiv : the preprint server for biology.

Son R, et al. (2024) Morphomics via next-generation electron microscopy. Journal of molecular cell biology, 15(12).

Guittari NK, et al. (2024) Nanoscale Connectomics Annotation Standards Framework. ArXiv.

Iyer S, et al. (2024) The BRAIN Initiative data-sharing ecosystem: Characteristics, challenges, benefits, and opportunities. eLife, 13.

Hawrylycz M, et al. (2023) A guide to the BRAIN Initiative Cell Census Network data ecosystem. PLoS biology, 21(6), e3002133.

Lackey EP, et al. (2023) Cerebellar circuits for disinhibition and synchronous inhibition. bioRxiv : the preprint server for biology.

Spirou GA, et al. (2023) High-resolution volumetric imaging constrains compartmental models to explore synaptic integration and temporal processing by cochlear nucleus globular bushy cells. eLife, 12.

Wildenberg G, et al. (2023) The Development of Synapses in Mouse and Macaque Primary Sensory Cortices. bioRxiv : the preprint server for biology.

Maher EE, et al. (2023) 3D electron microscopy and volume-based bouton sorting reveal the selectivity of inputs onto geniculate relay cell and interneuron dendrite segments. Frontiers in neuroanatomy, 17, 1150747.

Jwa AS, et al. (2022) The spectrum of data sharing policies in neuroimaging data repositories. Human brain mapping, 43(8), 2707.

Hider R, et al. (2022) The Brain Observatory Storage Service and Database (BossDB): A Cloud-Native Approach for Petascale Neuroscience Discovery. Frontiers in neuroinformatics, 16, 828787.

Osorno T, et al. (2022) Candelabrum cells are ubiquitous cerebellar cortex interneurons with specialized circuit properties. Nature neuroscience, 25(6), 702.

Ishibashi M, et al. (2022) Analysis of rod/cone gap junctions from the reconstruction of mouse photoreceptor terminals. eLife, 11.

Sanchez M, et al. (2022) Connectomics Annotation Metadata Standardization for Increased Accessibility and Queryability. Frontiers in neuroinformatics, 16, 828458.

Wildenberg G, et al. (2021) Partial connectomes of labeled dopaminergic circuits reveal non-synaptic communication and axonal remodeling after exposure to cocaine. eLife, 10.