Resource Summary Report

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MNI N3

RRID:SCR_002484
Type: Tool

Proper Citation

MNI N3 (RRID:SCR_002484)

Resource Information

URL: http://www.bic.mni.mcgill.ca/software/N3/

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Description: The perl script nu_correct implements a novel approach to correcting for intensity non-uniformity in MR data that achieves high performance without requiring supervision. By making relatively few assumptions about the data, the method can be applied at an early stage in an automated data analysis, before a tissue intensity or geometric model is available. Described as Non-parametric Non-uniform intensity Normalization (N3), the method is independent of pulse sequence and insensitive to pathological data that might otherwise violate model assumptions. To eliminate the dependence of the field estimate on anatomy, an iterative approach is employed to estimate both the multiplicative bias field and the distribution of the true tissue intensities. Preprocessing of MR data using N3 has been shown to substantially improve the accuracy of anatomical analysis techniques such as tissue classification and cortical surface extraction.

Abbreviations: N3

Synonyms: MNI N3 Software Package, MNI_N3, Non-parametric Non-uniform intensity Normalization, N3 - MINC B0 nonuniformity correction, MNI_N3 Software Package

Resource Type: software resource, software application, data processing software, image processing software

Keywords: magnetic resonance, mri

Funding:

Availability: MINC Licence, (BSD'ish), http://www.nitrc.org/include/glossary.php#527

Resource Name: MNI N3

Resource ID: SCR_002484

Alternate IDs: nlx_155878

Alternate URLs: http://www.nitrc.org/projects/nu_correct

Record Creation Time: 20220129T080213+0000

Record Last Update: 20250517T055535+0000

Ratings and Alerts

No rating or validation information has been found for MNI N3.

No alerts have been found for MNI N3.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 10 mentions in open access literature.

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

Lin L, et al. (2019) Voluntary wheel running delays brain atrophy in aged mice. Technology and health care : official journal of the European Society for Engineering and Medicine, 27(S1), 175.

Hikishima K, et al. (2015) Voxel-based morphometry of the marmoset brain: In vivo detection of volume loss in the substantia nigra of the MPTP-treated Parkinson's disease model. Neuroscience, 300, 585.

Chaim TM, et al. (2014) Multimodal magnetic resonance imaging study of treatment-naïve adults with attention-deficit/hyperactivity disorder. PloS one, 9(10), e110199.

Breece E, et al. (2013) Myeloid dendritic cells frequencies are increased in children with autism spectrum disorder and associated with amygdala volume and repetitive behaviors. Brain, behavior, and immunity, 31, 69.

Goto M, et al. (2012) Influence of signal intensity non-uniformity on brain volumetry using an atlas-based method. Korean journal of radiology, 13(4), 391.

Anderson VM, et al. (2012) Gray matter atrophy rate as a marker of disease progression in AD. Neurobiology of aging, 33(7), 1194.

Gibson E, et al. (2010) Automatic segmentation of white matter hyperintensities in the elderly using FLAIR images at 3T. Journal of magnetic resonance imaging : JMRI, 31(6), 1311.

Sluimer JD, et al. (2009) Accelerating regional atrophy rates in the progression from normal aging to Alzheimer's disease. European radiology, 19(12), 2826.

Frokjaer VG, et al. (2009) High familial risk for mood disorder is associated with low dorsolateral prefrontal cortex serotonin transporter binding. NeuroImage, 46(2), 360.

Leow AD, et al. (2006) Longitudinal stability of MRI for mapping brain change using tensor-based morphometry. NeuroImage, 31(2), 627.