The Volume Library

The intention of the library is to provide volume datasets for scientists involved with volume visualization and rendering. Commercial use is prohibited and no warranty whatsoever is expressed.

The datasets contain regular volume data mainly coming from CT or MRI scanners. The data is stored in the PVM format which contains information about the grid size, bit depth, and the cell spacing of a dataset. Optionally it may also contain a dataset description, courtesy information, the type of the scanner and a comment. This information and the raw data can be extracted easily using the PVM tools distributed with the V^3 volume rendering package available at my home page. Just download the V^3 package, unzip it, type "build.sh tools" in a Linux shell and use the pvm2raw utility in the tools folder to extract the raw data.

Please understand that only the **unmodified** PVM datasets are allowed to be redistributed. Otherwise we cannot guarantee that the credits are given properly and that no information is lost. If you want to make corrections or amendments (i.e. courtesy, scanner type, date of acquisition, etc.) or want to publish your own data in the library, please do not hesitate to contact me:

stefan@stereofx.org

| Dataset | Cross-Section | Description | Dimensions Bits [Aspect] Checksum | Credits | Scanning Parameters | Additional Comments |
|-------------|---------------|---|---|--|---|--|
| 1 | | Download (7608kb) | 384x512x80 8 bit 0.974019/0.974655/1.48125 0C16BF8F | Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| Artischocke | | <u>Download</u> (3152kb) | 256x256x104 8 bit 0.583649/0.583649/1.00586 C4A176F2 | Stefan Roettger & Florian Steinmeyer Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| e e | | Baby Head <u>Download</u> (1844kb) <u>.sav</u> | 256x256x98 8 bit 311D75D8 | Distributed with the VolSuite package | CT Scan | Jason Bryan is the developer and maintainer of VolSuite. Feel free to email him with questions or comments about the software: jbryan at osc dot edu |
| | 0 ts | Download (20436kb) | 512x512x373 8 bit 0.9766/0.9766/1.25 BD3512BD | | | |
| | | Blunt Fin <u>Download</u> (196kb) .say | 256x128x64 8 bit 1/0.75/1 31FA79A8 | NASA Advanced Supercomputing Division, USA http://www.nas.nasa.gov/Research/Datasets/datasets.html | Resampled from original unstructured tetrehedral grid | |
| | | Bonsai #1 non-linear quantized version <u>Download</u> (22384kb) | 512x512x182 8 bit 0.585938/0.585938/1 4D9DEE6A | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger | CT Scan with Contrast Dye Siemens Somatom Plus 4 16.Oct.1999 Thanks to Bernd Tomandl | |
| | | Bonsai #1 linear quantized version <u>Download</u> (10356kb) <u>.sav</u> | 512x512x182 8 bit 0.585938/0.585938/1 23D5981D | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger. | CT Scan with Contrast Dye Siemens Somatom Plus 4 16.Oct.1999 Thanks to Bernd Tomandl | |
| | A | Bonsai #1 <u>Download</u> (24508kb) | 512x512x182 16 bit 0.585938/0.585938/1 AF985501 | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger. | CT Scan with Contrast Dye Siemens Somatom Plus 4 16.Oct.1999 Thanks to Bernd Tomandl | |
| ** | I. | Bonsai #2 non-linear quantized version Download (17000kb) | 512x512x189 8 bit 0.402344/0.402344/1 865F7616 | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger | CT Scan with Contrast Dye Siemens Somatom Plus 4 16.Oct.1999 Thanks to Bernd Tomandl | |

| | | Bonsai #2 linear quantized version <u>Download</u> (9736kb) .say | 512x512x189 8 bit 0.402344/0.402344/1 AF0BDAC8 | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger | CT Scan with Contrast Dye Siemens Somatom Plus 4 16.Oct.1999 Thanks to Bernd Tomandl | |
|-------------------|---------|--|--|--|---|--|
| | | Bonsai #2 <u>Download</u> (22416kb) | 512x512x189 16 bit 0.402344/0.402344/1 A84386C0 | Stefan Roetttger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger. | CT Scan with Contrast Dye Siemens Somatom Plus 4 16.Oct.1999 Thanks to Bernd Tomandl | |
| | | Bonsai #3 non-linear quantized version <u>Download</u> (12824kb) <u>sav</u> | 512x512x154 8 bit 0.402344/0.402344/1 8487BBB5 | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger. | CT Scan with Contrast Dye Siemens Somatom Plus 4 16.Oct.1999 Thanks to Bernd Tomandl | Bonsai from IEEE Visualization '00 Conference |
| | | Bonsai #3 linear quantized version Download (7944kb) say | 512x512x154 8 bit 0.402344/0.402344/1 48FA5E11 | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger. | CT Scan with Contrast Dye Siemens Somatom Plus 4 16.Oct.1999 Thanks to Bernd Tomandl | Bonsai from IEEE Visualization '00 Conference |
| | | Bonsai #3 <u>Download</u> (18428kb) | 512x512x154 16 bit 0.402344/0.402344/1 415A4E0A | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger. | CT Scan with Contrast Dye Siemens Somatom Plus 4 16.Oct.1999 Thanks to Bernd Tomandl | Bonsai from IEEE Visualization '00 Conference |
| | | Solid Box <u>Download</u> (16kb) <u>sav</u> | 64x64x64 8 bit 07F7C3E4 | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger | Artificial | Test dataset containing a solid box |
| Cally And Library | | Bruce Gooch's Brain <u>Download (7444kb)</u> <u>Sav</u> | 256x256x156 16 bit 7E53970E | Bruce Gooch University of Utah, Salt Lake City http://www.cs.utah.edu/~bgooch/BruceBrain.html | FMRI scans taken at an undisclosed location in the University of Utah research park July 13th, 2001 | The scans were taken as part of an arcane research project by a buddy of mine named Jim Lee. Jim also provided the Matlab scripts you can use to view the MRI data. I am making the data freely available with the following caveats: 1. If you publish a scientific paper with an image created using my MRI data you will mention that the image was created using the "Bruce Gooch's Brain" data sets. 2. If you create a really cool image of my brain you will email me a copy of it. I will post all such images on this site. Thank You, and happy computing. Bruce Gooch June 12, 2001 |
| | \circ | Bucky Ball <u>Download</u> (24kb) .sav | 32x32x32 8 bit 102CDE9F | AVS, USA http://www.avs.com | Simulation of the electron density of a Buckminster-Fullerene | |
| | | Stanford Bunny <u>Download</u> (64956kb) <u>sav</u> | 512x512x361 16 bit 0.337891/0.337891/0.5 F9A197D4 | Terry Yoo High Performance Computing and Communications, National Library of Medicine, USA <u>mailtoyoo@nlm.nib.gov</u> | CT Scan 28.Jan.2000 | This is a CT scan of the terracotta Stanford Bunny. Three hundred sixty-one files comprise the bunny. The scale of the voxel data is 0.337891 mm x 0.337891 mm x 0.5mm in the x-, y-, and z-dimensions respectively. The greyscale units are founsfield units, denoting electron-density of the subject. The data is raw 512s512 slices, unsigned, 12 bit data stored as 16bit (2-byte) pixels. The scan was completed 28 January 2000. Many many thanks to Geoff Rubin who helped me to scan the data, Sandy Napel who coordinated the scan and helped to process the data, and Marc Levoy who graciously provided the subject. Geoff and Sandy are with Stanford Radiology, and Marc is with Stanford Computer Science. |

| | | | | | Dataset contact info: Terry S. Yoo High Performance Computing and Communications yoo@nlm.nih.gov National Library of Medicine National Institutes of Health |
|--|--|---|---|--|--|
| CT-Abdomen | Download (23992kb) | 512x512x147 8 bit 0.779724/0.779724/4.96599 AAAA125E | Stefan Roettger & Florian Steinmeyer Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| | Female Chest Download (7104kb) Say | 384x384x240 8 bit AB7D36C1 | Department of Radiology, University of Iowa http://radiology.uiowa.edu/downloads | CT Scan | |
| Market State of the State of th | Chapel Hill CT Head (Download (5616kb) | (256×256×113) (16 bit) (195×1/1 R878) (5728224B) | Marc Levoy Computer Graphics Laboratory, Stanford University, USA http://graphics.stanford.edy/-levoy Provided courtesy of North Carolina Memorial Hospital | CT Study of a Female Cadaver Head General Electric CT Scanner | |
| | Knee with anterior tibial osteotomy Download (7316kb) .sav | 379x229x305 8 bit 8D6A4540 | Department of Radiology, University of Iowa http://radiology.uiowa.edu/downloads | CT-Scan | |
| | CTA Head with Aneurysm Download (9692kb) Say | 512x512x120 8 bit 0.214844/0.214844/0.5 39317391 | Division of Neuroradiology, University of Erlangen, Germany http://www.neuroradiologie.med.uni-erlangen.de | CTA Scan | EBE CTA 1 dataset |
| 1 S | Cadaver Head <u>Download</u> (16480kb) say | 512x512x106 16 bit 0.435547/0.435547/2 02C1D792 | Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de | CT Scan | The cadaver head is famous for the scanning artifacts originating at the teeth |
| | The Carp Download (19864kb) .say | 256x256x512 16 bit 0.78125/0.390625/1 AEB61B35 | Michael Scheuring Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de | CT Scan | The Carp is a seasonal delicacy in Frankonia, Germany |
| | Artificial Clouds <u>Download</u> (836kb) | 512x512x32 8 bit 743C02CB | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger | Artifical dataset generated with 3D Perlin Noise | |
| Coronal-fem | Download (2756kb) | 512x512x44 8 bit 1.27992/1.27992/4.88636 0564C110 | Stefan Roettger & Florian Steinmeyer Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| Coronal-mal | Download (3636kb) | 512x512x59 8 bit 1.35906/1.35906/2.94915 503F9522 | Stefan Roettger & Florian Steinmeyer Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| | Crossed Rods Download (12kb) say | 64x64x64 8 bit 8724C5A0 | Ove Sommer Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de | Artificial | Test dataset containing several crossed rods, balls and platters Rods are placed like coordinate axes to verify correct orientation |

| (X) | DTI Scan Download (716kb) .sav | 128x128x58 16 bit 497782FE | Pierre Fillard http://www.cs.unc.edu/~fillard | Diffusion Tensor MRI Scan Series | B0 = lores MRI scan (no diffusion weighting) B1 = diffusion weighted volume #1 with dir=(10,1) B2 = diffusion weighted volume #2 with dir=(-10,1) B3 = diffusion weighted volume #3 with dir=(01,1) B4 = diffusion weighted volume #4 with dir=(01,1) B5 = diffusion weighted volume #6 with dir=(01,1) B6 = diffusion weighted volume #6 with dir=(-1,1,0) MD = mean diffusion FA = fractional anisotropy |
|-----|--------------------------------------|----------------------------------|---|----------------------------------|--|
| | DTI Scan <u>Download</u> (580kb) | 128x128x58 16 bit 424F4A19 | Pierre Fillard http://www.cs.unc.edu/~fillard | Diffusion Tensor MRI Scan Series | B0 = lores MRI scan (no diffusion weighting) B1 = diffusion weighted volume #1 with dir=(1,0,1) B2 = diffusion weighted volume #2 with dir=(-1,0,1) B3 = diffusion weighted volume #3 with dir=(0,1,1) B4 = diffusion weighted volume #3 with dir=(0,1,-1) B5 = diffusion weighted volume #5 with dir=(1,1,0) B6 = diffusion weighted volume #6 with dir=(-1,1,0) MD = mean diffusion FA = fractional anisotropy |
| | DTI Scan <u>Download</u> (580kb) | 128x128x58 16 bit AAB49B39 | Pierre Fillard http://www.cs.unc.edu/~fillard | Diffusion Tensor MRI Scan Series | B0 = lores MRI scan (no diffusion weighting) B1 = diffusion weighted volume #1 with dir=(1,0,1) B2 = diffusion weighted volume #2 with dir=(-1,0,1) B3 = diffusion weighted volume #3 with dir=(0,1,1) B4 = diffusion weighted volume #3 with dir=(0,1,-1) B5 = diffusion weighted volume #5 with dir=(1,1,0) B6 = diffusion weighted volume #6 with dir=(-1,1,0) MD = mean diffusion FA = fractional anisotropy |
| | DTI Scan <u>Download</u> (580kb) | 128x128x58 16 bit 488DAC6A | Pierre Fillard http://www.cs.unc.edu/~fillard | Diffusion Tensor MRI Scan Series | B0 = lores MRI scan (no diffusion weighting) B1 = diffusion weighted volume #1 with dir=(1,0,1) B2 = diffusion weighted volume #2 with dir=(-1,0,1) B3 = diffusion weighted volume #3 with dir=(0,1,1) B4 = diffusion weighted volume #3 with dir=(0,1,-1) B5 = diffusion weighted volume #5 with dir=(1,1,0) B6 = diffusion weighted volume #6 with dir=(-1,1,0) MD = mean diffusion FA = fractional anisotropy |
| | DTI Scan <u>Download</u> (576kb) | 128x128x58 16 bit EFA22F4E | Pierre Fillard http://www.cs.unc.edu/~fillard | Diffusion Tensor MRI Scan Series | B0 = lores MRI scan (no diffusion weighting) B1 = diffusion weighted volume #1 with dir=(1,0,1) B2 = diffusion weighted volume #2 with dir=(-1,0,1) B3 = diffusion weighted volume #3 with dir=(0,1,1) B4 = diffusion weighted volume #4 with dir=(0,1,-1) B5 = diffusion weighted volume #4 with dir=(1,1,0) B6 = diffusion weighted volume #6 with dir=(-1,1,0) MD = mean diffusion FA = fractional anisotropy |
| | DTI Scan <u>Download</u> (584kb) | 128x128x58 16 bit 11743FB5 | Pierre Fillard http://www.cs.unc.edu/~fillard | Diffusion Tensor MRI Scan Series | B0 = lores MRI scan (no diffusion weighting) B1 = diffusion weighted volume #1 with dir=(1,0,1) B2 = diffusion weighted volume #2 with dir=(-1,0,1) B3 = diffusion weighted volume #3 with dir=(0,1,1) B4 = diffusion weighted volume #4 with dir=(0,1,-1) B5 = diffusion weighted volume #6 with dir=(1,1,0) B6 = diffusion weighted volume #6 with dir=(-1,1,0) MD = mean diffusion FA = fractional anisotropy |
| | DTI Scan Download (584kb) | 128x128x58 16 bit FF48D5B6 | Pierre Fillard http://www.cs.unc.edu/~fillard | Diffusion Tensor MRI Scan Series | B0 = lores MRI scan (no diffusion weighting) B1 = diffusion weighted volume #1 with dir=(1,0,1) B2 = diffusion weighted volume #2 with dir=(1,0,1) B3 = diffusion weighted volume #3 with dir=(0,1,1) B4 = diffusion weighted volume #4 with dir=(0,1,-1) B5 = diffusion weighted volume #4 with dir=(0,1,-1) B6 = diffusion weighted volume #6 with dir=(-1,1,0) MD = mean diffusion FA = fractional anisotropy |
| | DTI Scan <u>Download</u> (648kb) | 128x128x58 8 bit E62446AC | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger | Diffusion Tensor MRI Scan Series | B0 = lores MRI scan (no diffusion weighting) B1 = diffusion weighted volume #1 with dir=(1,0,1) B2 = diffusion weighted volume #2 with dir=(-1,0,1) B3 = diffusion weighted volume #3 with dir=(0,1,1) B4 = diffusion weighted volume #4 with dir=(0,1,-1) B5 = diffusion weighted volume #6 with dir=(1,1,0) B6 = diffusion weighted volume #6 with dir=(-1,1,0) MD = mean diffusion FA = fractional anisotropy |
| | DTI Scan <u>Download</u> (364kb) | 128x128x58 8 bit 7F461F36 | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger | Diffusion Tensor MRI Scan Series | B0 = lores MRI scan (no diffusion weighting) B1 = diffusion weighted volume #1 with dir=(1,0,1) B2 = diffusion weighted volume #2 with dir=(-1,0,1) B3 = diffusion weighted volume #3 with dir=(0,1,1) B4 = diffusion weighted volume #4 with dir=(0,1,-1) B5 = diffusion weighted volume #4 with dir=(0,1,-1) |

| | (V) | | | | | B6 = diffusion weighted volume #6 with dir=(-1,1,0) MD = mean diffusion FA = fractional anisotropy |
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| | | Daisy Pollen Grain <u>Download</u> (568kb) <u>sav</u> | 192x180x168 8 bit 745EFA2F | Olaf Ronneberger Computer Science Institute, University of Freiburg, Germany | Daisy pollen grain recorded by confocal laser scanning microscopy | |
| 0 | | Engine Block Download (2900kb) Sav | 256x256x256 8 bit E786CB95 | General Electric, USA http://www.ge.com | CT Scan GE Industrial Scanner | Two cylinders of an engine block |
| | B | Foot Download (4592kb) | 256x256x256 8 bit 4FAD56F0 | Philips Research, Hamburg, Germany http://www.philips.de/forschung | CT Scan Philips CT Scanner | |
| | | Frog <u>Download</u> (1652kb) <u>.sav</u> | 256x256x44 8 bit 0.5/0.5/1 B2E8D2C2 | Information and Computing Sciences Division, Lawrence Berkeley Laboratory, USA http://www-itg.lbl.gov | MRI Scan | This is the second frog used in the Whole Frog Project. Three sets of data were produced with the MRI scans. frog2ci.hips seemed to be the best, and only this set of data was processed using HIPS filters to balance the contrast on the images. This same frog was later sliced and a better data set is produced that showed more detail of the frog. frog2ci.hips is a spin echo data set with 50 slices, inplane resolution of 0.5mm, slice thickness and separation of 1.0mm, TE = 33ms. The individual slices 2-45 are in the tiff directory. For information about the HIPS file format see http://www-itg.lbl.gov/ITG.hm.pg.docs/image-proc/CCS-ECL/README.txt This data is copyrighted by Lawrence Berkeley National Laboratory. |
| | -KOKE K | Fuel Injection <u>Download</u> (12kb) <u>.sav</u> | 64x64x64 8 bit 282902A6 | SFB 382 of the German Research Council (DFG) | Simulation of fuel injection into a combustion chamber The higher the density value, the lower the presence of air | |
| .0 | + | Hydrogen Atom Download (196kb) .sav | 128x128x128 8 bit 4A792245 | SFB 382 of the German Research Council (DFG) | Simulation of the spatial probability distribution of the electron in a hydrogen atom, residing in a strong magnetic field. | |
| | | Download (5912kb) .sav | 500x500x100 16 bit 4/4/3 4462EA24 | Hurricane Isabel converted into PVM format by Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger The Weather Research and Forecasting (WRF) Model simulation data of Hurricane Isabel was kindly provided by Bill Kuo, Wei Wang, Cindy Bruyere, Tim Scheitlin, and Don Middleton of the U.S. National Center for Atmospheric Research (NCAR) and the U.S. National Science Foundation (NSF) at this location: http://www.vets.ucar.edu/vg/isabeldata/ | | |
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| Isabel-Upwind | | <u>Download</u> (32548kb) | 500x500x100 16 bit 4/4/3 C9695DDD | Hurricane Isabel converted into PVM format by Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger The Weather Research and Forecasting (WRF) Model simulation data of Hurricane Isabel | | |

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| | 6 | Download (8384kb) | 384x384x96 8 bit 1.0909/1.0909/0.889583 B23A8009 | Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| Kiwi | | Download (3260kb) | 256x256x104 8 bit 0.466919/0.466919/0.61899 3732AC40 | Stefan Roettger & Florian Steinmeyer Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| | | Knee <u>Download</u> (26040kb) .sav | 512x512x87 16 bit 0.25/0.25/1.5 21D925AD | Brigham and Women's Hospital Surgical Planning Laboratory http://splweb.bwh.harvard.edu | MRI Scan | From the Transfer Function Bakeoff at IEEE Visualization '00 Conference Original source: http://visual.nlm.nih.gov |
| P | | Lobster Download (1908kb) .sav | 301x324x56 8 bit 1/1/1.4 CFCD4D44 | VolVis distribution of SUNY Stony Brook, NY, USA. http://www.volvis.org | CT Scan | The lobster is contained in a block of resin |
| R. | | MRI Head <u>Download</u> (13412kb) . <u>sav</u> | 256x256x256 8 bit 1/1/0.8 3396D681 | Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de | MRI Scan | |
| | | MRI Phantom <u>Download</u> (7420kb) | 181x217x181 16 bit 19FB5371 | McConnell Brain Imaging Centre Montreal Neurological Institute, McGill University http://www.bic.mni.mcgill.ca/cgi/brainweb | Simulated MRI Scan Series | BrainWeb: Simulated Brain Database As the interest in the computer-aided, quantitative analysis of medical image data is growing, the need for the validation of such techniques is also increasing. Unfortunately, there exists no 'ground truth' or gold standard for the analysis of in vivo acquired data. The BrainWeb pages provide a solution to the validation problem, in the form of a Simulated Brain Database (SBD). The SBD contains a set of realistic MRI data volumes produced by an MRI simulator. These data can be used by the neuroimaging community to evaluate the performance of various image analysis methods in a setting where the truth is known. PD = MRI Proton Density |
| | | <u> </u> | | | <u> </u> | T1 = MRI T1 measurement T2 = MRI T2 measurement |
| | | MRI Phantom <u>Download</u> (6656kb) . <u>sav</u> | 181x217x181 16 bit 3AB8A09B | McConnell Brain Imaging Centre Montreal Neurological Institute, McGill University http://www.bic.mni.mcgill.ca/cgi/brainweb | Simulated MRI Scan Series | BrainWeb: Simulated Brain Database As the interest in the computer-aided, quantitative analysis of medical image data is growing, the need for the validation of such techniques is also increasing. Unfortunately, there exists no 'ground truth' or gold standard for the analysis of in vivo acquired data. The BrainWeb pages provide a solution to the validation problem, in the form of a Simulated Brain Database (SBD). The SBD contains a set of realistic MRI data volumes produced by an MRI simulator. These data can be used by the neuroimaging community to evaluate the performance of various image analysis methods in a setting where the truth is known. |
| | Ţ, | ĺ | ! | | | PD = MRI Proton Density T1 = MRI T1 measurement T2 = MRI T2 measurement |
| | | MRI Phantom Download (7648kb) | 181x217x181 16 bit DEFC2412 | McConnell Brain Imaging Centre Montreal Neurological Institute, McGill University http://www.bic.mni.mcgill.ca/cgi/brainweb | Simulated MRI Scan Series | BrainWeb: Simulated Brain Database As the interest in the computer-aided, quantitative analysis of medical image data is growing, the need for the validation of such techniques is also increasing. Unfortunately, there exists no 'ground truth' or gold standard for the analysis of in vivo acquired data. The BrainWeb pages provide a solution to the validation problem, in the form of a Simulated Brain Database (SBD). The SBD contains a set of realistic MRI data volumes produced by an MRI simulator. These data can be used by the neuroimaging community to evaluate the performance of various image analysis methods in a setting where the truth is known. |

| | | | | | | PD = MRI Proton Density T1 = MRI T1 measurement T2 = MRI T2 measurement |
|----------|------|---|--|--|---|---|
| | | MRI Woman <u>Download</u> (7788kb) <u>.sav</u> | 256x256x109 16 bit 1/1/1.5 EA3A8842 | Siemens Medical Systems, Inc., Iselin, NJ., USA | MRI Scan Siemens Magnetom | |
| | | Registered Monkey Head (CT) <u>Download</u> (540kb) <u>.sav</u> | 256x256x62 8 bit 55513E1F | Laboratory of Neuro Imaging, UCLA, USA http://www.loni.ucla.edu/Research/Atlases/ | CT Scan | |
| | () | Registered Monkey Head (MRI T1) Download (2160kb) .sav | 256x256x62 8 bit E0DAD1AC | Laboratory of Neuro Imaging, UCLA, USA http://www.loni.ucla.edu/Research/Atlases/ | MRI T1 Scan | |
| To be | | Registered Monkey Head (MRI T2) Download (1724kb) _sav | 256x256x62 8 bit 2D7656C6 | Laboratory of Neuro Imaging, UCLA, USA http://www.loni.ucla.edu/Research/Atlases/ | MRI T2 Scan | |
| 6 | | Registered Monkey Head (PET) <u>Download</u> (3340kb) | 256x256x62 RGB 100FE261 | Laboratory of Neuro Imaging, UCLA, USA http://www.loni.ucla.edu/Research/Atlases/ | PET Scan | |
| | ù i, | Neghip <u>Download</u> (68kb) .say | 64x64x64 8 bit 42A8A6EF | VolVis distribution of SUNY Stony Brook, NY, USA. http://www.volvis.org | Simulation of the spatial probability distribution of the electrons in a high potential protein molecule. | Neghip = Negative high potential protein molecule |
| | | Orange <u>Download</u> (2480kb) .say | 256x256x64 8 bit 0.3906255/0.390625/1 3CA3D462 | Bill Johnston and Wing Nip Information and Computing Sciences Division, Lawrence Berkeley Laboratory, USA http://www-itg.lbl.gov | MRI Scan | These images and data were produced at Lawrence Berkeley Laboratory by Bill Johnston and Wing Nip of the Information and Computing Sciences Division. This work is supported by the U. S. Department of Energy, Energy Research Division, Office of the Scientific Computing Staff under contract DE-AC03-76SF00098. This data is provided for the purpose of scientific research and collaboration with Lawrence Berkeley Laboratory. Any commercial use of these images and data require prior agreement with Lawrence Berkeley Laboratory. The images and data are Copyright Lawrence Berkeley Laboratory. For further information contact Bill Johnston (510-486-5014, wejohnston@lbl.gov). |
| 3 8 | | Download (1060kb) | 480x512x64 8 bit 0.70166/0.701752/0.885938 DCF08EE7 | Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| | | Piggy Bank <u>Download</u> (16516kb) .sav | 512x512x134 16 bit 0.371094/0.371094/1 E0EF8A00 | Michael Bauer Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de | CT Scan Siemens Volume Zoom Somatom Plus 4 | To prevent scanning artifacts the piggy bank contains chocolate coins |
| | | Porsche Model Car <u>Download</u> (32356kb) <u>.sav</u> | 559x1023x347 8 bit B05EFB08 | Michael Bauer, Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de | | |
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| Retrograde-GF | | <u>Download</u> (6500kb) | 320x320x72 16 bit 1.25/1.25/1.85 92EA86AD | | | |
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| ** | | Download (4152kb) .sav | 320x320x72 16 bit 1.25/1.25/1.85 29A40E5E | Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wik.ohm-hochschule.de/roettger | | |
| | | Sheep Heart <u>Download</u> (18772kb) <u>.sav</u> | 352x352x256 8 bit FC68B74E | Center for In-Vivo Microscopy, Duke University, North Carolina, USA http://www.civm.mc.duke.edu | MRI Scan | From the Transfer Function Bakeoff at IEEE Visualization '00 Conference Original source: http://visual.nlm.nih.gov |
| | | Spherical Distance Volume <u>Download</u> (68kb) | 64x64x64 8 bit DF219C08 | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger | Artificial | Test dataset containing the euclidean distance to the origin |
| | 0 | Test Spheres Download (1596kb) . <u>sav</u> | 128x128x128 8 bit 4817C587 | Stefan Roettger Computer Graphics Group, University of Erlangen, Germany http://www9.cs.fau.de/Persons/Roettger | Artificial Test Dataset | |
| | * | Download (14408kb) .sav | 512x512x96 8 bit 0.779724/0.779724/0.791667 FEB03210 | Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| | | Teddy Bear <u>Download</u> (8856kb) <u>.sav</u> | 512x512x63 16 bit 0.693359/0.693359/5 5F420124 | Bernd Tomandl Division of Neuroradiology, University of Erlangen, Germany http://www.neuroradiologie.med.uni-erlangen.de | CT Scan | |
| | | Tomato <u>Download</u> (2292kb) . <u>sav</u> | 256x256x64 8 bit 0.390625/1 9872930A | Bill Johnston and Wing Nip Information and Computing Sciences Division, Lawrence Berkeley Laboratory, USA http://www-itg.lbl.gov | MRI Scan | These images and data were produced at Lawrence Berkeley Laboratory by Bill Johnston and Wing Nip of the Information and Computing Sciences Division. This work is supported by the U. S. Department of Energy, Energy Research Division, Office of the Scientific Computing Staff under contract DE-ACO3-765F00098. This data is provided for the purpose of scientific research and collaboration with Lawrence Berkeley Laboratory. Any commercial use of these images and data require prior agreement with Lawrence Berkeley Laboratory. The images and data are Copyright Lawrence Berkeley Laboratory. For further information contact Bill Johnston (510-486-5014, wejohnston@lbl.gov). |
| | 0.8 | The Tooth <u>Download</u> (4540kb) <u>.sav</u> | 256x256x161 16 bit 64E45893 | GE Aircraft Engines, Evendale, Ohio, USA | Micro CT Scan GE Industrial Micro CT Scanner | From the Transfer Function Bakeoff at IEEE Visualization '00 Conference Original source: http://visual.nlm.nih.gov |

| | | Download (7684kb) | 448x448x208 8 bit 0.712691/0.712691/0.796154 AD7982A4 | Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
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| | | Download (16964kb) | 448x448x160 8 bit 0.645876/0.645876/0.944063 EDESDS10 | Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| | F | Download (17072kb) .sav | 448x448x160 16 bit 946A9B34 | Stefan Roettger Georg-Simon-Ohm University of Applied Sciences, Nuremberg, Germany http://wiki.ohm-hochschule.de/roettger | | |
| | | Virgo Cluster <u>Download</u> (11720kb) | 256x256x256 RGB 211B2D5B | The Virgo Consortium http://www.virgo.dur.ac.uk | N-Body Simulation of the Virgo Group | Original scattered data resampled by Matthias Hopf http://www.mshopf.de |
| | | Head (Visible Male) <u>Download</u> (2792kb) <u>Sav</u> | 128x256x256 8 bit 1.57774/0.995861/1.00797 26B44CE6 | National Library of Medicine, National Institutes of Health, USA http://www.nlm.nih.gov | CT Scan | |
| | | The XMasTree lores version <u>Download</u> (10096kb) <u>.sav</u> | 256x249x256 16 bit 2720D16E | The CT-dataset XMasTree was generated from a real world Christmas Tree by the Department of Radiology, University of Vienna and the Institute of Computer Graphics and Algorithms, Vienna University of Technology. http://ringlotte.cg.tuwien.ac.at/datasets/XMasTree/XMasTree.html | CT Scan Real-world dimensions: X-Size: 476mm Y-Size: 476mm Z-Size: 499mm | |
| | | The XMasTree Download (72236kb) | 512x499x512 16 bit BBE684C1 | The CT-dataset XMasTree was generated from a real world Christmas Tree by the Department of Radiology, University of Vienna and the Institute of Computer Graphics and Algorithms, Vienna University of Technology. http://ringlotte.cg.tuwien.ac.at/datasets/XMasTree/XMasTree.html | CT Scan Real-world dimensions: X-Size: 476mm Y-Size: 476mm Z-Size: 499mm | |
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