



Some Ibis Project Users

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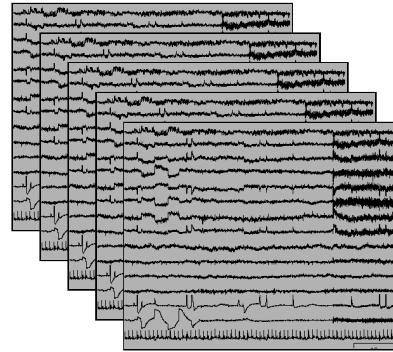


VU Medical Center MEG Functional Imaging

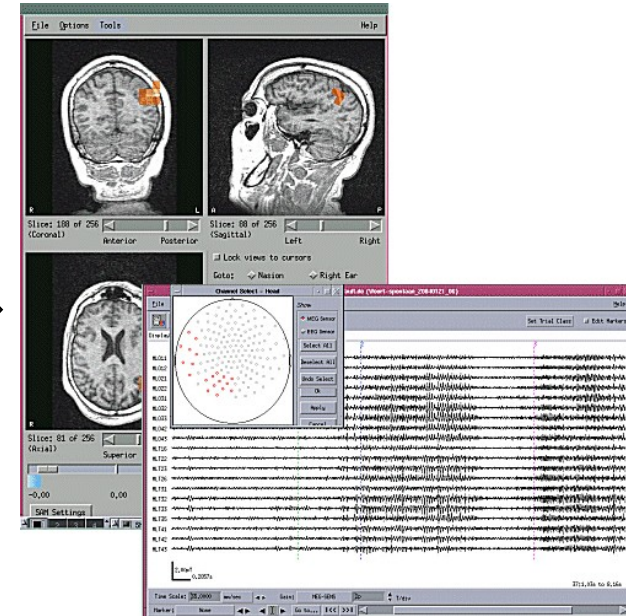


Magneto
Encephalography
System (MEG)

*courtesy
CTF MEG Systems*



MEG signals



Analysis tool for MEG data

*courtesy
VUMC MEG Centrum*

- Reconstructs source of electrical currents in the human brain based on magnetic fields measured just above the scalp
- Multiple Sclerosis, Alzheimer, phantom pain



VU Medical Center

MEG Functional Imaging

- Locating the sources of brain activation is computation intensive (fit data to model)
- Existing commercially available non-Java software from MEG International Services
- Test on local machine on test data set
- Full test on 340 data sets, 116 Gigabytes, would take several weeks
- Deploy to the grid to analyse scans of many patients in parallel
- Runs for a less than two hours
- Moved bottleneck from computation to medical doctors



VU Medical Center: MRI DTI-based Studies

- Tract-based spatial statistics (TBSS) was used as an analysis tool.
- Image analysis is computation-intensive
- Existing non-Java software, FSL written mainly by FMRI Analysis Group, Oxford University, UK
- 3844 brains compared
- Sequentially, this would take 12 weeks 24/7
- Done in 1 weekend



VU Medical Center Tools

- Generic task farming framework based on scripting
 - Place executable in a directory
 - Place data set in directory
 - Parameter file
 - Use JavaGAT to run executable on all datasets
 - Monitor progress
 - Copy back all results and output
 - Security is of key importance
- Keith Cover from the VUMC wrote the framework by himself! (with some support)



Vbrowser

- Developed by Informatics UvA
 - www.science.uva.nl/~ptdeboer/vlet
- Use case: Medical imaging, AMC
- Used by Medical researchers
- Runs on their desktops, typically MS Windows
- Looks exactly like the windows explorer
- Browse through resources, such as data files
 - Local disk
 - External storage resource broker
 - The grid



AMC: VBrower

VBrower[0]:srb://piter.de.boer.vlenl@srb.grid.sara.nl:50000/VLENL/home/piter.de.boer.vlenl/fMRIstudy/phase-0.5.feats/report...

Location Edit View Tools Windows Help

Location: srb://piter.de.boer.vlenl@srb.grid.sara.nl:50000/VLENL/home/piter.de.boer.vlenl/fMRIstudy/phase-0.5.feats/report.html

Resource

- GRID for fMRI -
 - /D:/usbhome
 - SRB@SARA
 - piter.de.boer.vlenl
 - MyStuff
 - fMRIstudy
 - phase-0.5.feats
 - mc
 - stats
 - tsplot
 - design.con
 - design.frf
 - design.fsf
 - design.gif
 - design.mat
 - design.ppm
 - design.trg
 - design_cov.gif
 - design_cov.ppm
 - example_func.nii.gz
 - filtered_func_data.nii.gz
 - mask.nii.gz
 - rendered_thresh_z
 - rendered_thresh_z
 - report.com
 - report.html


CobraViewer

FEAT Report

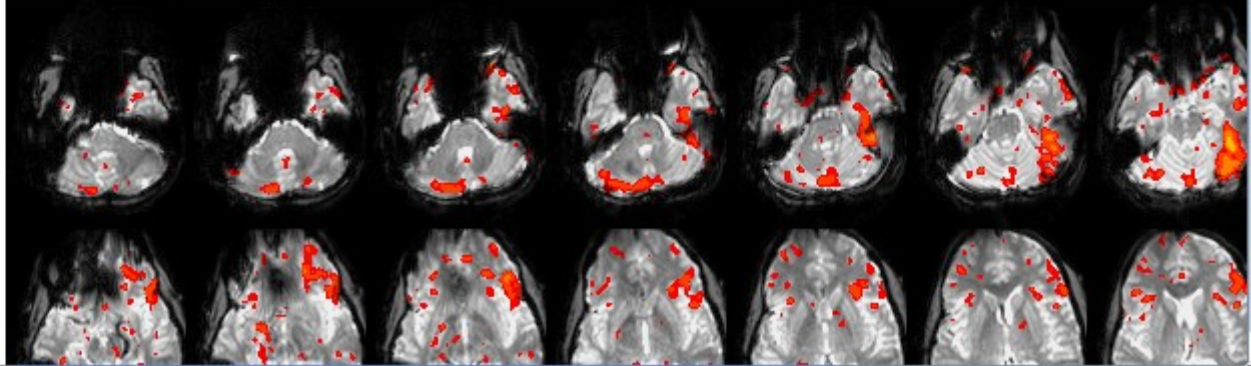
/scratch/195830.mu6.matrix.sara.nl/1166367815.43/new-p-0.5.feats/report.html
Sun Dec 17 18:11:38 CET 2006

[Motion correction report](#) (mean displacements: absolute=0.21mm, relative=0.05mm)

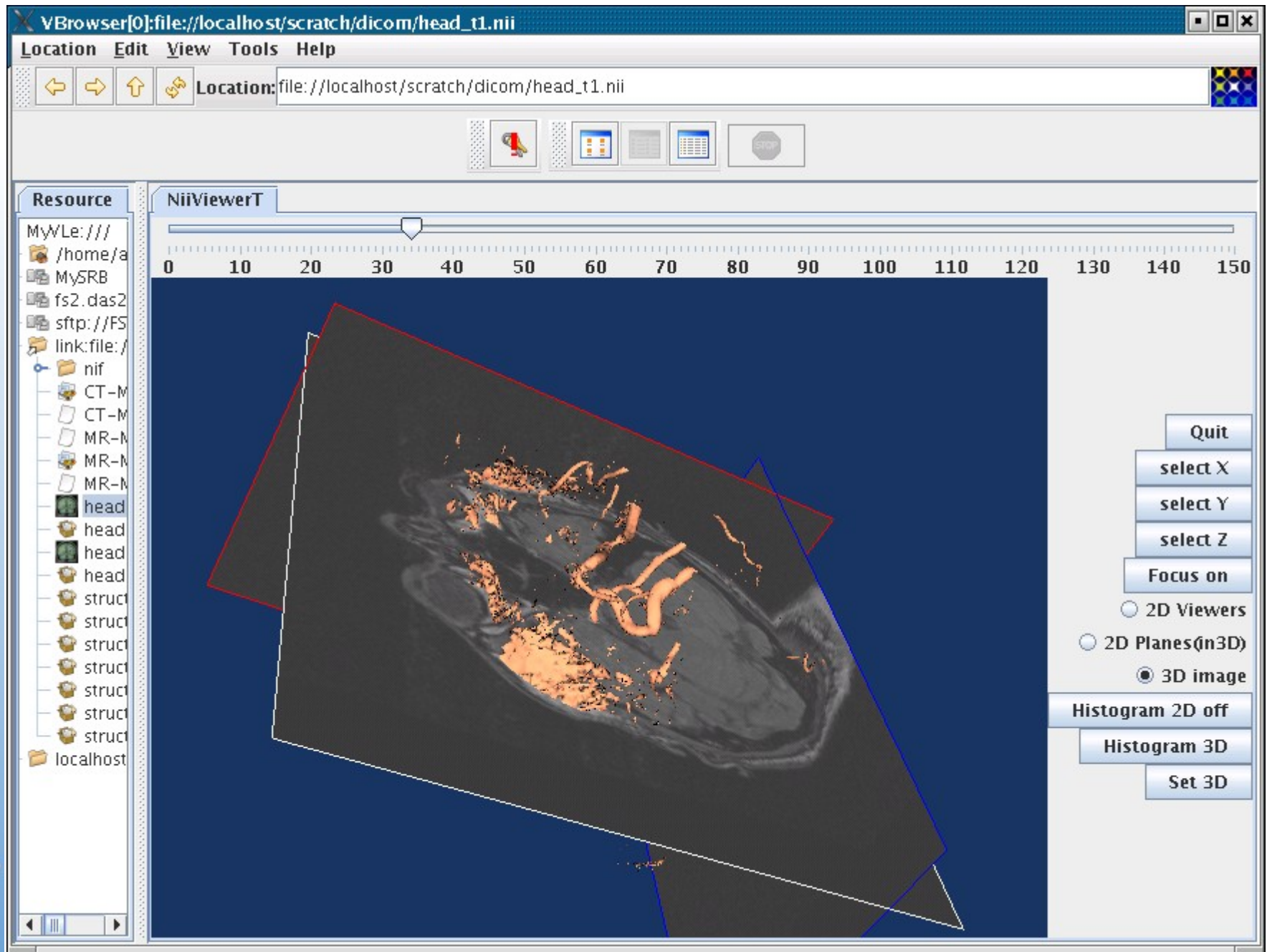
Thresholded activation images

1.0  15.0

zstat1 - C1 (contrast)



AMC: VBrower



D-Grid

- Large German Grid project
 - HEP-Grid (High Energy Physics)
 - C3-Grid (Climate Research)
 - WISENT (Energy Meteorology)
 - InGrid (engineers)
 - TextGrid (Textual Research)
 - MediGrid (Medical Research)
 - AstroGrid (Astronomical Research)
- Several subprograms use JavaGAT
- D-Grid Integration Project provides official JavaGAT support for D-Grid
- **ProC workflow engine**





Analyse data of Planck Satelite

Analyse Cosmic Microwave Background

