Export a BrainVoyager VOI in Talairach space to NIfTI format

Step 1

Transform the (VMR) file to NIfTI/Analyze orientation via 3D Volume Tools (Load .TRF, Apply .TRF) using the file:
http://support.brainvoyager.com/documents/Available_Tools/Available_Plugins/nifticonverter/toAnalyze Orientation.zip
and export to Analyze (predecessor of NIfTI) in three substeps:

1. Load transformation file "toAnalyzeOrientation.trf" (see also appendix) via the 3D Volume Tools, tab 'Spatial Transf', button 'Load .TRF'
2. Transform the (VMR) file to NIfTI/Analyze orientation via 3D Volume Tools (Apply .TRF)
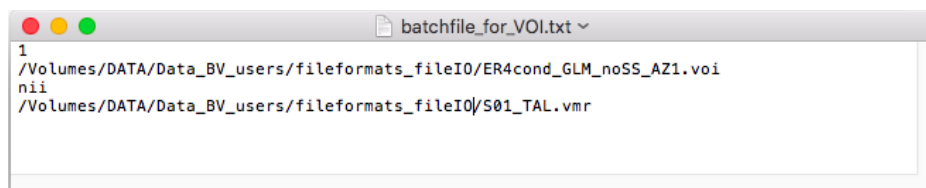3. Export the transformed VMR via File > Export to Analyze.
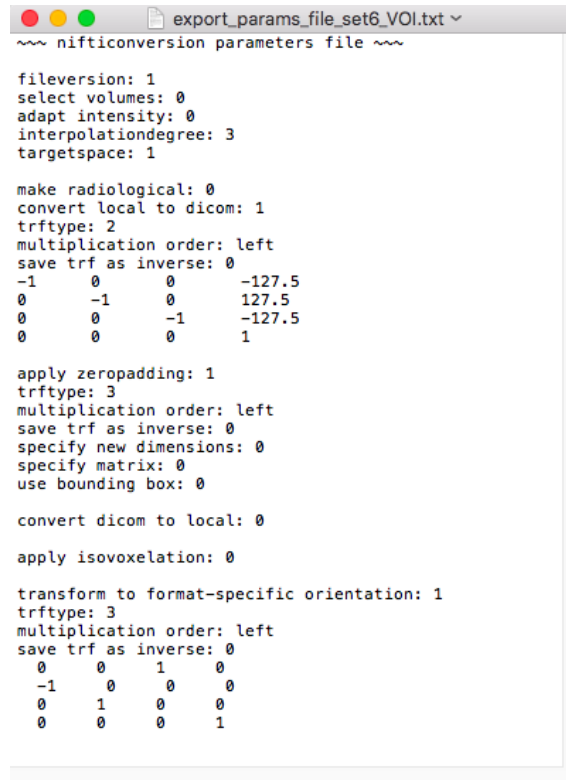

Step 2

Make a batch file, for example 'batchfile_for_VOI.txt', please take care not to have spaces in the path name. In the first line, the number of files to export is mentioned. Then, for each file, first type the name including the path, and on the next line the destination format (in this case of export to NIfTI: 'nii'). For VOI files, because they need to be loaded on the VMR before they can be exported, the underlying VMR is written on the next line:

<number of VOIs to convert>
<VOI name 1>
<destination format 1>
<VMR name 1>
<VOI name 2>
<destination format 2>
<VMR name 2>
...
<VOI name *n*>
<destination format *n*>
<VMR name *n*>

Step 3

Download the example VOI export parameter file from
http://support.brainvoyager.com/documents/Available_Tools/Available_Plugins/nifticonverter/export_par
ams_file_set6_VOI.txt

```
~~~ nifticonversion parameters file ~~~

fileversion: 1
select volumes: 0
adapt intensity: 0
interpolationdegree: 3
targetspace: 1

make radiological: 0
convert local to dicom: 1
trftype: 2
multiplication order: left
save trf as inverse: 0
-1      0      0      -127.5
0      -1      0      127.5
0      0      -1      -127.5
0      0      0      1

apply zeropadding: 1
trftype: 3
multiplication order: left
save trf as inverse: 0
specify new dimensions: 0
specify matrix: 0
use bounding box: 0

convert dicom to local: 0

apply isovoxelation: 0

transform to format-specific orientation: 1
trftype: 3
multiplication order: left
save trf as inverse: 0
0      0      1      0
-1      0      0      0
0      1      0      0
0      0      0      1
```
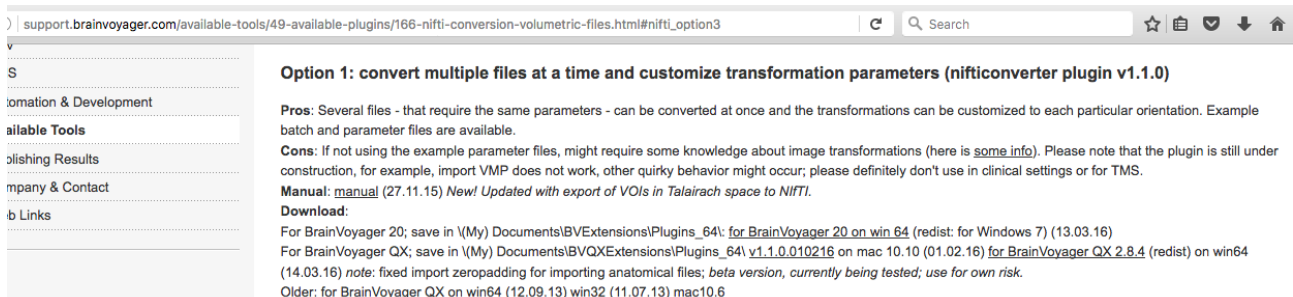
Step 4

Download NIfTI converter 1.1.0 from

http://support.brainvoyager.com/available-tools/49-available-plugins/166-nifti-conversion-volumetric-
files.html#nifti_option1

and place the unzipped version in /Documents/BVExtensions/Plugins/.

support.brainvoyager.com/available-tools/49-available-plugins/166-nifti-conversion-volumetric-files.html#nifti_option3

Option 1: convert multiple files at a time and customize transformation parameters (nifticonverter plugin v1.1.0)

Pros: Several files - that require the same parameters - can be converted at once and the transformations can be customized to each particular orientation. Example batch and parameter files are available.

Cons: If not using the example parameter files, might require some knowledge about image transformations (here is some info). Please note that the plugin is still under construction, for example, import VMP does not work, other quirky behavior might occur; please definitely don't use in clinical settings or for TMS.

**Manual**: manual (27.11.15) *New! Updated with export of VOIs in Talairach space to NIfTI.*

Download:

For BrainVoyager 20; save in \(My) Documents\BVExtensions\Plugins_64\: for BrainVoyager 20 on win 64 (redist: for Windows 7) (13.03.16)

For BrainVoyager QX; save in \(My) Documents\BVQXExtensions\Plugins_64\ v1.1.0.010216 on mac 10.10 (01.02.16) for BrainVoyager QX 2.8.4 (redist) on win64 (14.03.16) *note: fixed import zeropadding for importing anatomical files; beta version, currently being tested; use for own risk.*

Older: for BrainVoyager QX on win64 (12.09.13) win32 (11.07.13) mac10.6

Step 5

Open BrainVoyager, go to 'Plugins' menu, select 'NIfTIconverter 1.1.0' Option 1: batchconversion.
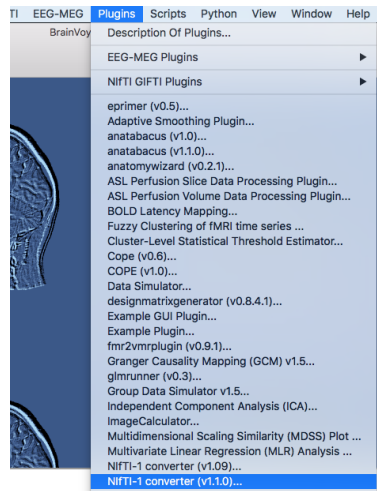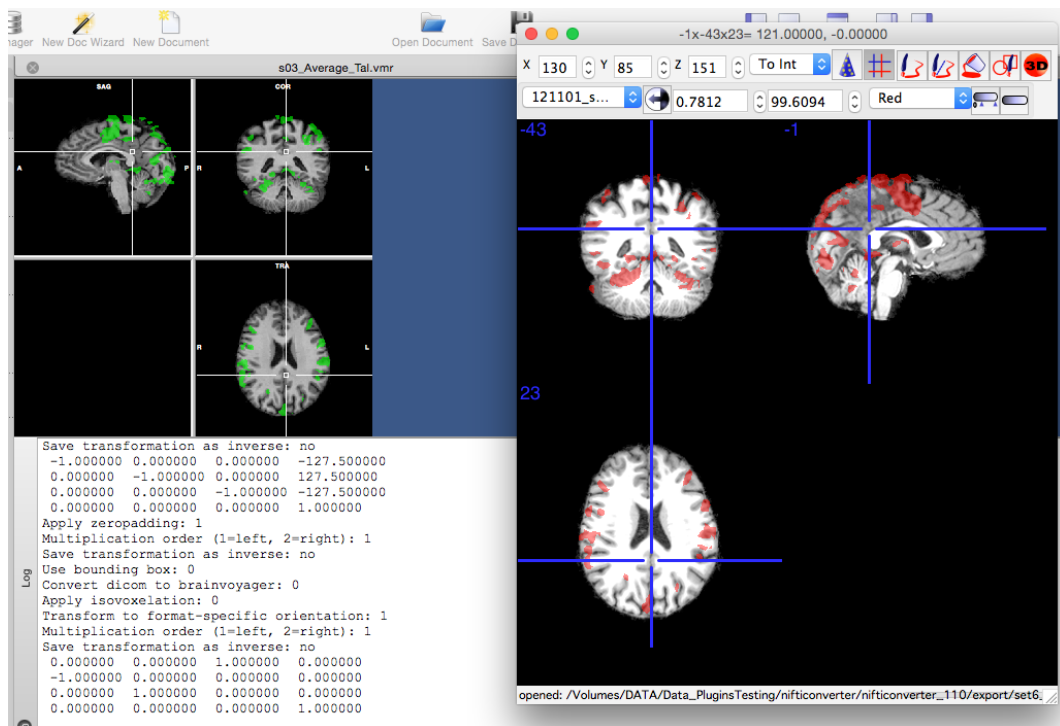

Load the batch file and the parameter file via the buttons. Then click 'Start processing'.
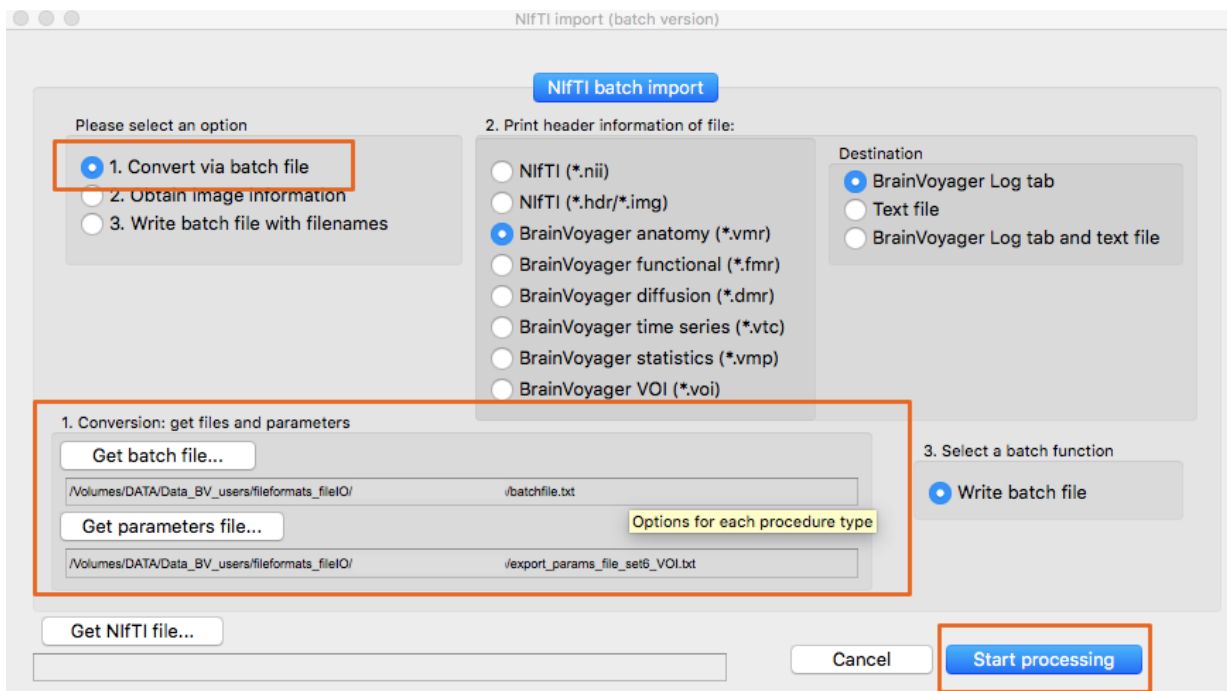
Step 6

Load the files in MRIcron or another software package and check left/right. Flip if necessary.

Appendix

toAnalyzeOrientation.trf

FileVersion: 5

DataFormat: Matrix

```
0.000000000000000 -1.000000000000000 0.000000000000000 0.000000000000000
0.000000000000000 0.000000000000000 -1.000000000000000 0.000000000000000
-1.000000000000000 0.000000000000000 0.000000000000000 0.000000000000000
0.000000000000000 0.000000000000000 0.000000000000000 1.000000000000000
```

TransformationType: 2
CoordinateSystem: 0

SourceFile: "/myproject.vmr"
TargetFile: "/myproject_TRF.vmr"

batchfile.txt (for Mac)

```
1
/Volumes/DATA/Data_BV_users/fileformats_fileIO/ER4cond_GLM_noSS_AZ1.voi
nii
/Volumes/DATA/Data_BV_users/fileformats_fileIO/S01_TAL.vmr
```

export_params_file_set6_VOI.txt

~~~ nifticonversion parameters file ~~~

fileversion: 1
select volumes: 0
adapt intensity: 0
interpolationdegree: 3
targetspace: 1

make radiological: 0
convert local to dicom: 1
trftype: 2
multiplication order: left
save trf as inverse: 0

-1	0	0	-127.5
0	-1	0	127.5
0	0	-1	-127.5
0	0	0	1

apply zeropadding: 1
trftype: 3
multiplication order: left
save trf as inverse: 0
specify new dimensions: 0
specify matrix: 0
use bounding box: 0

convert dicom to local: 0

apply isovoxelation: 0

transform to format-specific orientation: 1
trftype: 3
multiplication order: left
save trf as inverse: 0

0	0	1	0
-1	0	0	0
0	1	0	0
0	0	0	1