

dicomConverter for nextViewer

1. Python installation

It's important to use Python 3.10.

Check if Python 3.10 is installed

a) Windows

Open your cmd and type in „py -3.10 --version“

If Python 3.10 is installed cmd will tell you your Python version and you can continue with 2. Program installation.

```
C:\Users\guent>py -3.10 --version  
Python 3.10.10
```

1 Python 3.10 is installed Windows

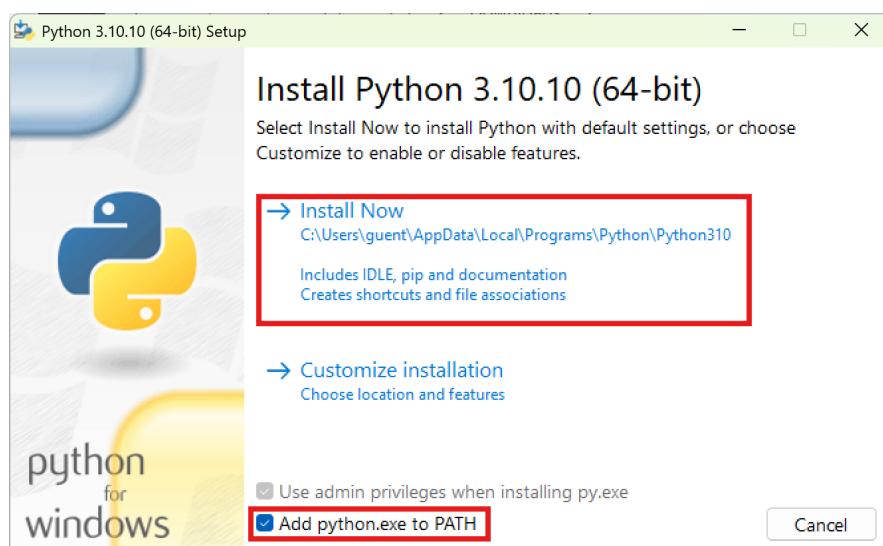
If Python 3.10 is not installed the following will appear and you have to install it.

```
C:\Users\guent>py -3.10 --version  
Python 3.10 not found!
```

2 Python 3.10 is not installed Windows

Download Python 3.10.10 from <https://www.python.org/ftp/python/3.10.10/python-3.10.10-amd64.exe> and install it. It's important to check „Add python.exe to PATH“.

Press „Install Now“ to use the default installation.



3 Python installation WIndows

b) MacSO

Open your terminal and type in „python3.10 --version“

If Python 3.10 is installed the terminal will tell you your Python version and you can continue with 2. Program installation.

```
(base) next3d@MacBook-Pro-von-Next ~ % python3.10 --version
Python 3.10.11
```

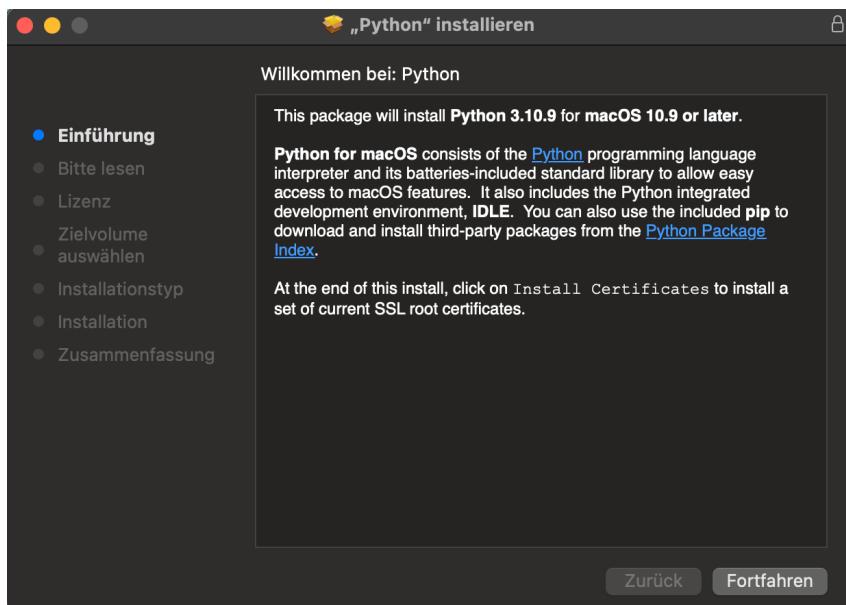
4 Python 3.10 is installed MacOS

If Python 3.10 is not installed the following will appear and you have to install it.

```
(base) next3d@MacBook-Pro-von-Next ~ % python3.9 --version
zsh: command not found: python3.9
```

5 Python 3.9 is not installed MacOS (would be the same for 3.10)

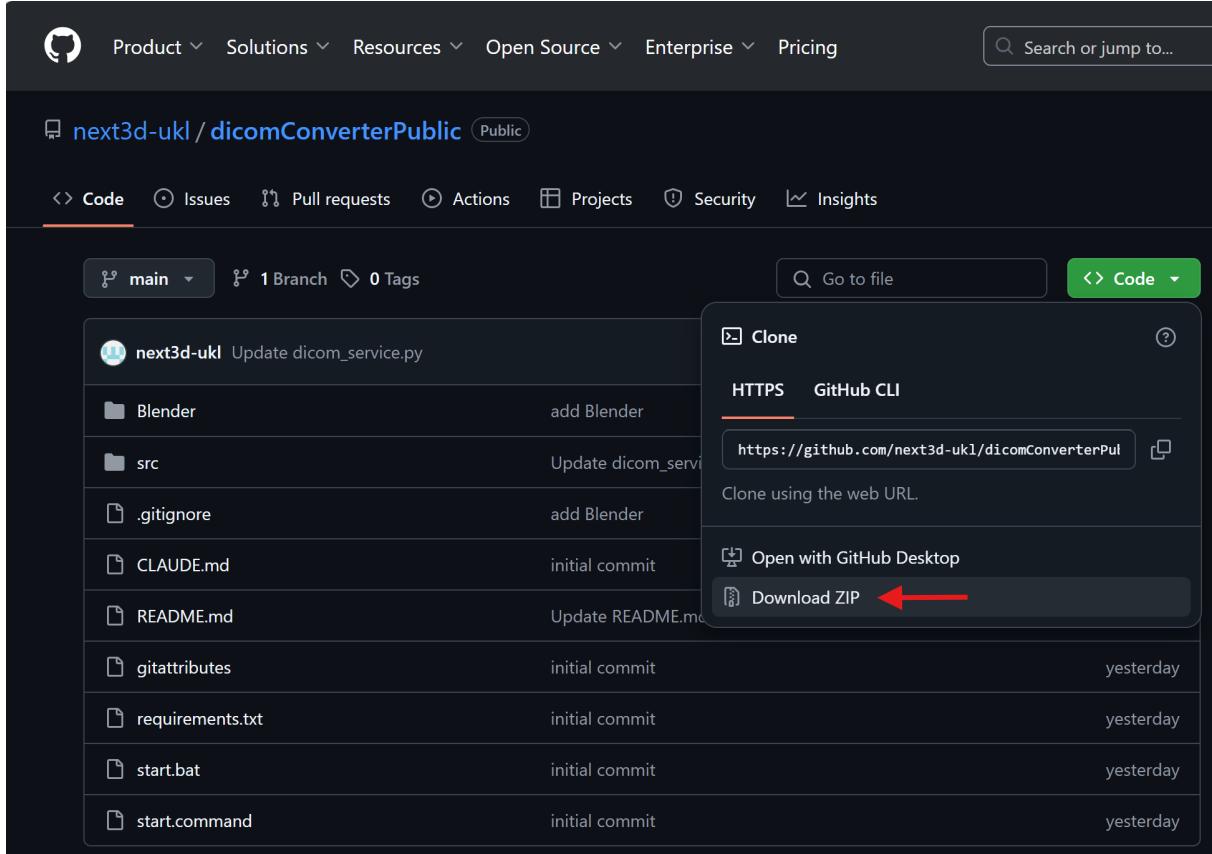
Download Python 3.10.9 from <https://www.python.org/ftp/python/3.10.9/python-3.10.9-macos11.pkg> and install it. Just click through the installation.



6 Python installation MacOS

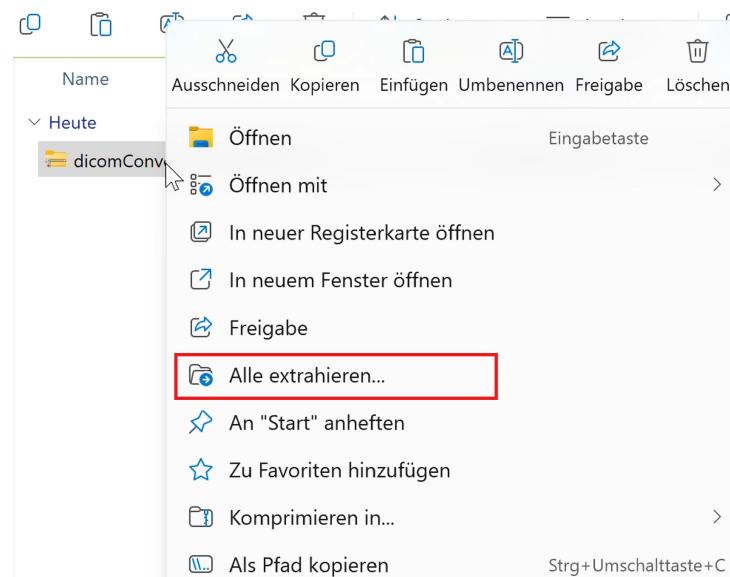
2. Program installation

Go to <https://github.com/next3d-ukl/dicomConverterPublic> and download the project as zip.



7 Download project

Move the folder where you want to and extract it.



8 Extract the folder

Now you can start the program. The first start of the program will install everything, that can take a moment.

a) Windows

Double click the start.bat in the folder.

Heute			
⌚ .gitignore	05.06.2025 11:07	Git Ignore-Quelldatei	1 KB
📄 CLAUDE.md	05.06.2025 11:07	Markdown-Quelldatei	2 KB
📄 gitattributes	05.06.2025 11:07	Datei	3 KB
📄 README.md	05.06.2025 11:07	Markdown-Quelldatei	6 KB
📄 requirements.txt	05.06.2025 11:07	Textdokument	1 KB
%B start.bat	05.06.2025 11:07	Windows-Batchdatei	1 KB
📄 start.command	05.06.2025 11:07	COMMAND-Datei	1 KB
📁 src	Größe: 287 Bytes Änderungsdatum: 05.06.2025 11:07	Dateiordner	
📁 Blender	05.06.2025 11:08	Dateiordner	

9 Start the program on WIndows

b) MacOS

Double click the start.command in the folder.

> 📂 .git	Gestern, 13:04	381,4 MB
📄 .gitignore	Gestern, 13:01	46 Byte
> 📂 .venv	Gestern, 11:46	821,5 MB
> 📂 Blender	02.06.2025, 07:56	723 MB
📄 CLAUDE.md	Gestern, 12:36	1 KB
📄 gitattributes	23.05.2025, 13:01	2 KB
📄 README.md	Gestern, 13:00	5 KB
📄 requirements.txt	23.05.2025, 13:01	80 Byte
> 📂 src	Vorgestern, 14:20	287 KB
📄 start.bat	Gestern, 11:33	287 Byte
📄 start.command	Gestern, 11:46	675 Byte

10 Start the program on MacOS

If this doesn't work you have to activate the script in the terminal. Therefore open your terminal and navigate to your directory via „cd [Path/to/your/project/folder]“ and type in „chmod +x start.command“.

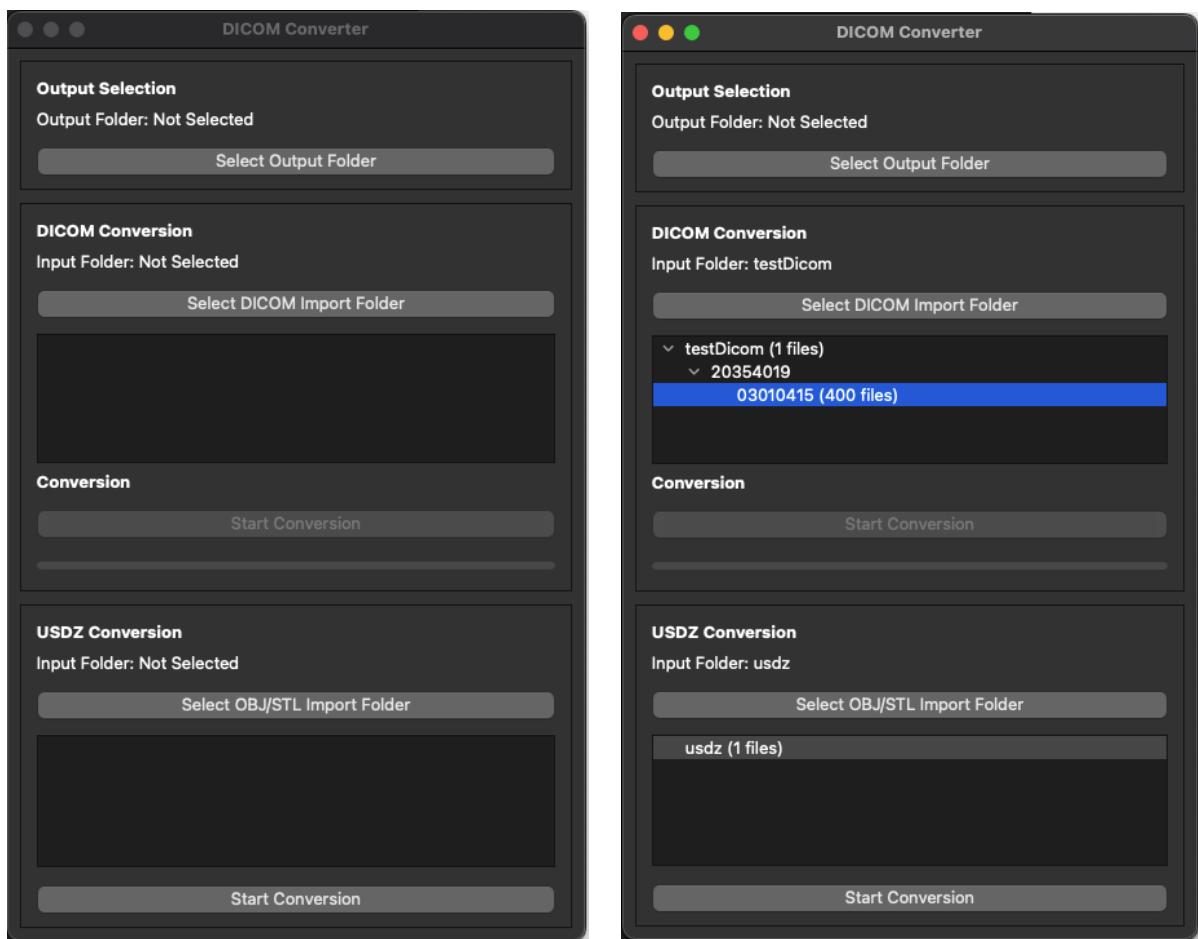
```
(base) next3d@MacBook-Pro-von-Next ~ % cd Documents/GitHub/UKL/dicomConverterPublic  
(base) next3d@MacBook-Pro-von-Next dicomConverterPublic % chmod +x start.command
```

11 activate start.command MacOS

3. Program usage

There are 3 main sections.

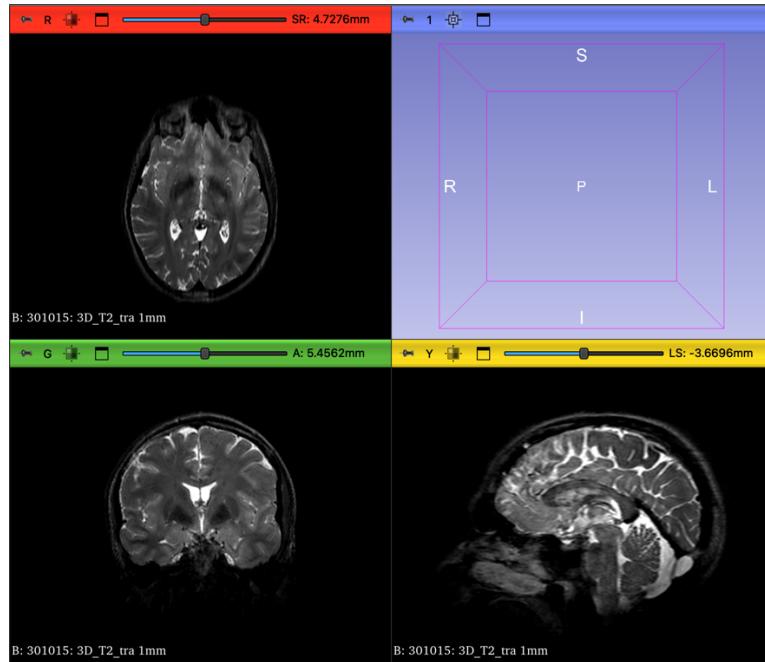
1. The Output selection is there to select a folder where you want to save your results. This folder has to be empty!
2. At the DICOM Conversion you can select a folder as input which contains DICOM files you want to convert for nextViewer. In the box under the button you can see the folder structure you selected. Make sure to select the right folder which contains the DICOM files (by default the folder with the most files is selected).
3. The USDZ Conversion works similar to the DICOM Conversion. You select the folder which contains your STL/OBJ files. The selected folder structure shows up below. Make sure to select the right folder (by default the folder with the most files is selected).



12 dicomConverter application by start and with selected folders

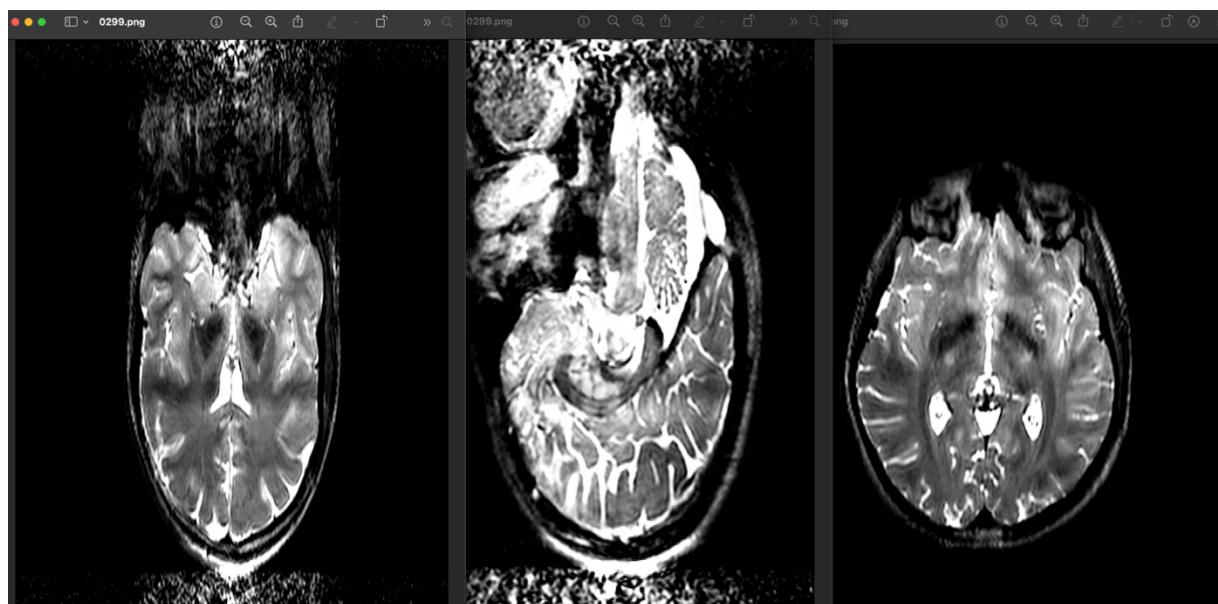
4. Error handling

Sometimes it happens that images will not convert correctly. To check that open the folder with your exported results and look at each cutting direction at one file in the middle of your dataset. You can use a dicom viewer like 3D Slicer to compare how it should look like.



13 How images should like

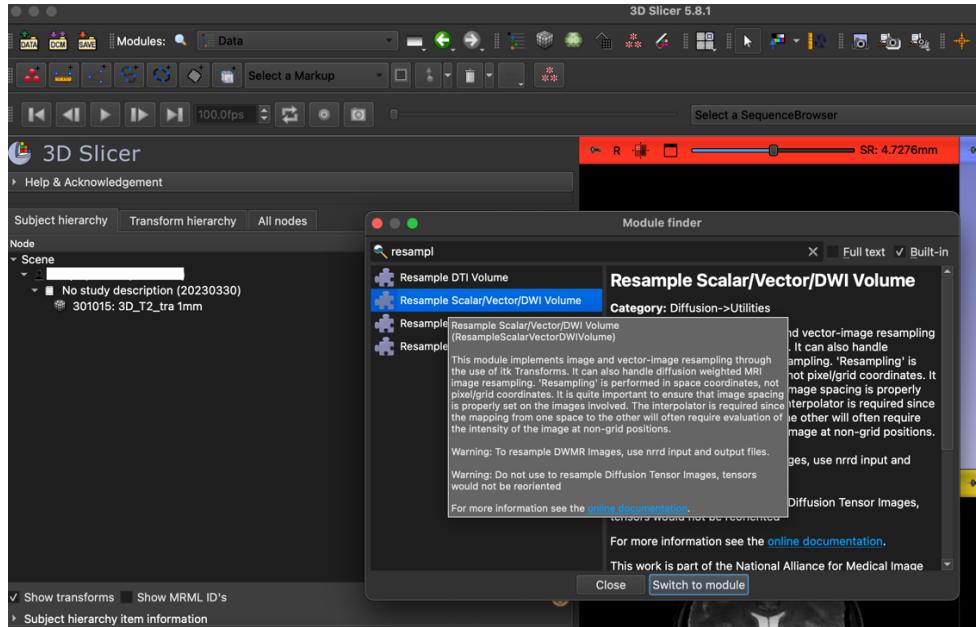
If a mistake happens it can look like following.



14 Incorrect conversion

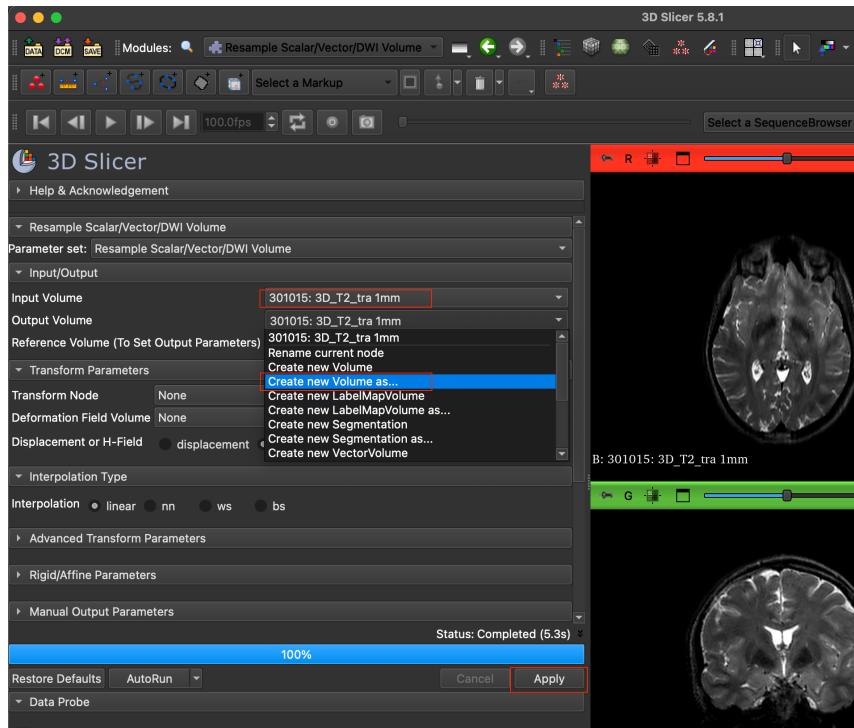
To avoid this mistake you have to resample your data. There for you can utilize 3D Slicer.

Load your dicom data to 3D Slicer. Then go to the modul „Resample Scalar/Vector/DWI Volume“.



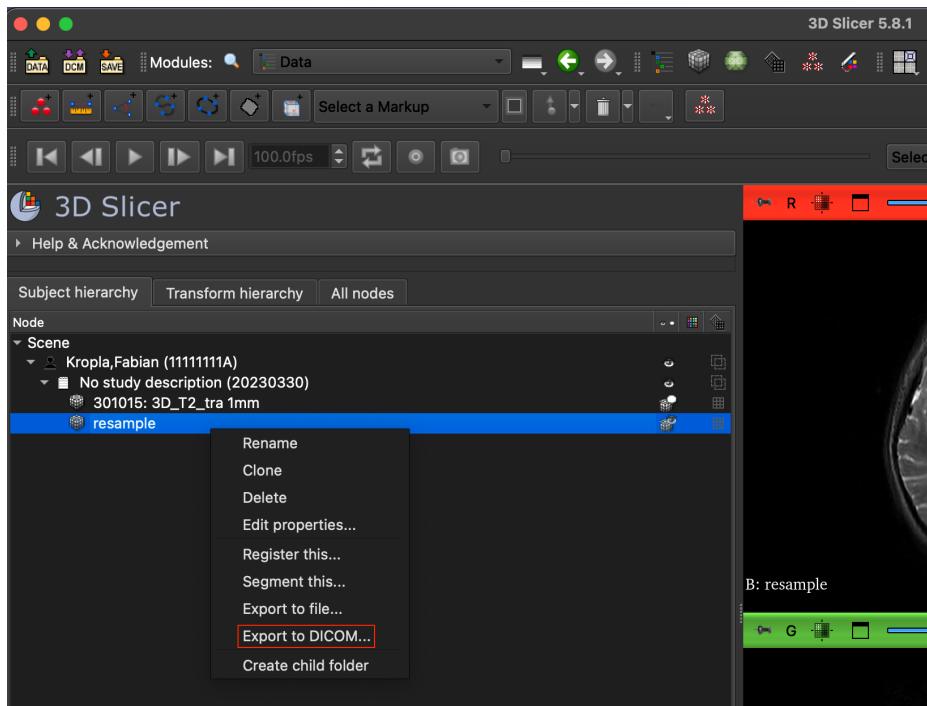
15 Find resample Scalar/Vector/DWI Volume in 3D Slicer

Select your original data as input and create a new volume as output and call it as you want. After that click „Apply“.



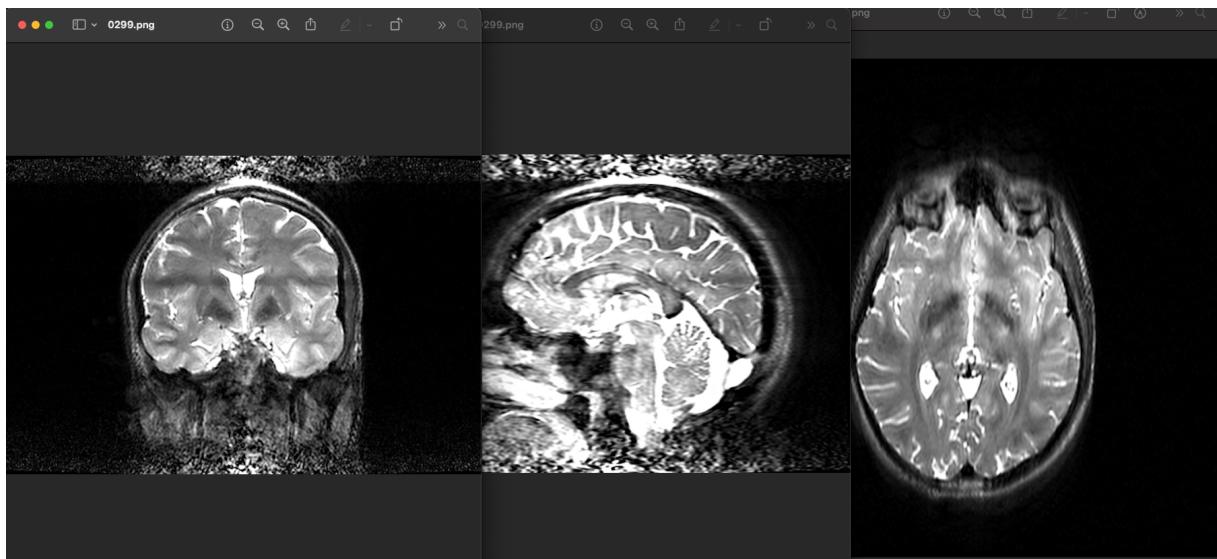
16 Resample volume in 3D Slicer

Now you can switch back to the „Data“ modul and export your new volume. Right click the new volume and select „Export to DICOM“.



17 Export new volume

Now you can use the dicomConverter again. The new results should look like expected.



18 Expected results