

Loading individual datasets in this repository

All of the datasets in this repository can be loaded into MATLAB with the function `io_loadspec_varian.m` included in [Jamie Near's FID-A toolbox](#).

The workflow is the same for all datasets

1. Define a variable pointing to the path of the `.fid` folder:

```
filename = 'STEAM_human_spectra/4T_STEAM_TE4ms_human.fid';
```

2. Use the `io_loadspec_varian` function to load the data from the file.

```
Human4T = io_loadspec_varian(filename);
```

When prompted to provide the dimensions of the data, enter the following:

```
THE SIZE OF THE DATA ARRAY IS: 2048 x 1
```

Now please identify each of the data dimensions. Note, if any two data dimensions have the same array index, you will also need to specify whether they are interleaved or not. For example, if averages and coils are both indexed in the 2nd dimension of the array, please answer '2' below for both averages and coils, and then answer 'y' or 'n' to the question about whether they are interleaved or not.

```
Which is the time dimension? (Usually it is '1'): 1
Which is the coils dimension? ('0' for none): 0
Which is the averages dimension? ('0' for none): 2
Which is the subspecs dimension? ('0' for none): 0
Any extra dimensions not listed above? ('0' for none): 0
```

3. Display the loaded data using the `op_plotspec` function:

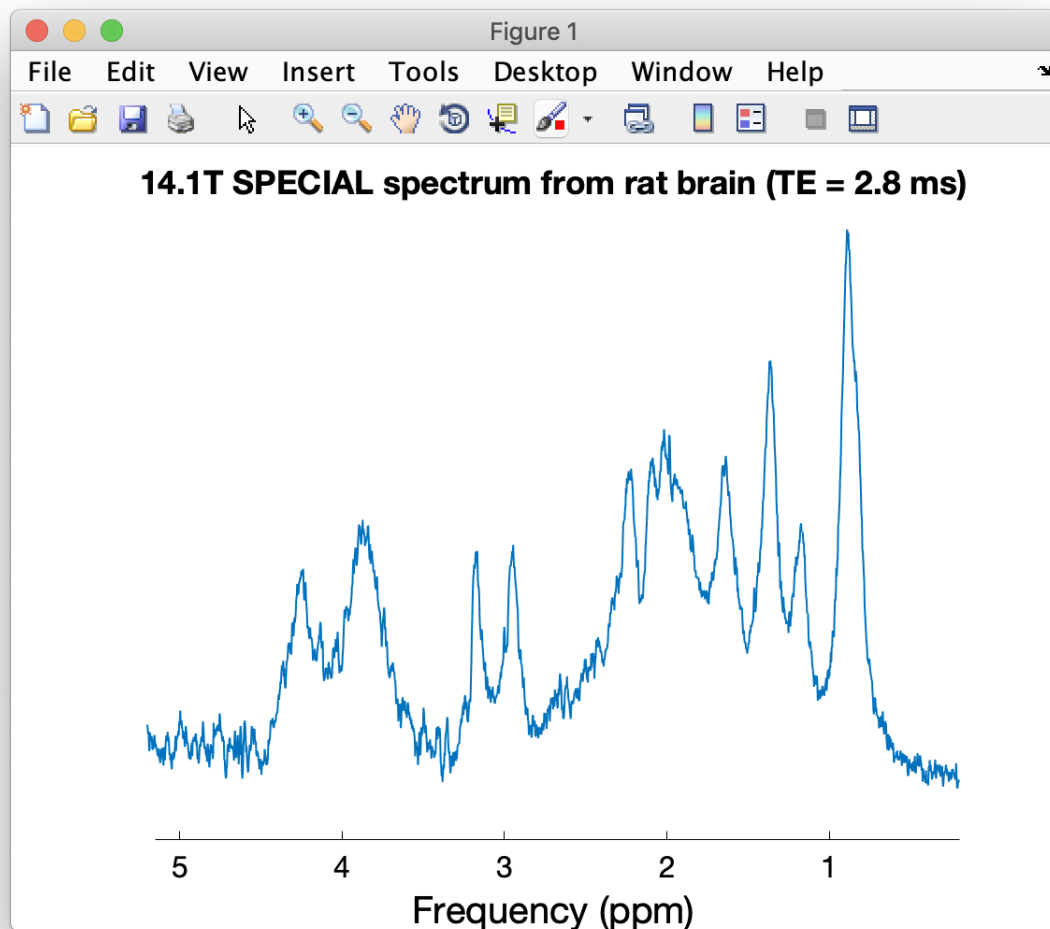
```
op_plotspec(Human4T, 0.2, 5.2, 'Frequency (ppm)', '', '4T STEAM spectrum from human brain (TE = 4 ms)');
```

MM datasets

14.1T SPECIAL rat brain (TE = 2.8 ms)

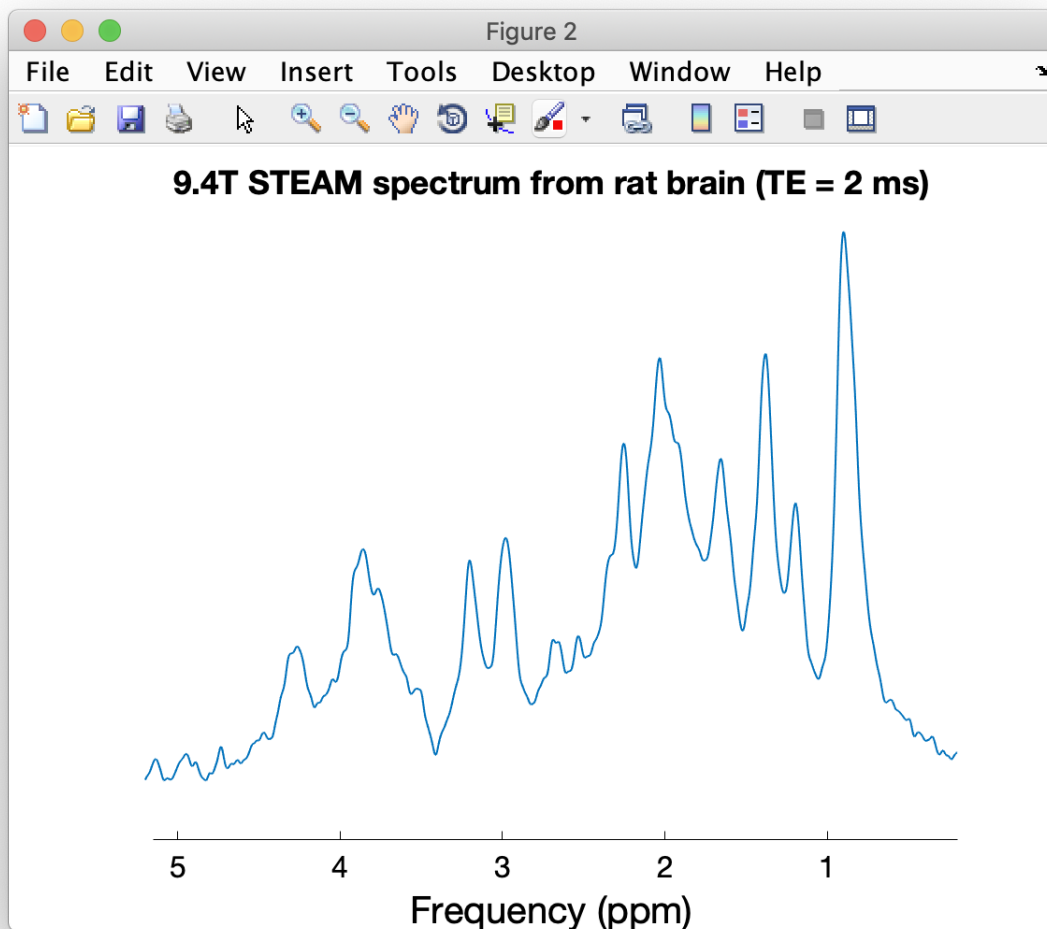
The 14.1T SPECIAL spectrum in this dataset requires an additional zero-order phase correction of -95 degrees, which we apply using the FID-A toolbox as well:

```
filename = 'MM_database/14.1T_MM_rat_SPECIAL_Lausanne.fid';
Rat14T_MM = io_loadspec_varian(filename);
Rat14T_MM = op_addphase(Rat14T_MM, -95);
op_plotspec(Rat14T_MM, 0.2, 5.2, 'Frequency (ppm)', '', '14.1T SPECIAL spectrum from rat brain (TE = 2.8 ms)')
```



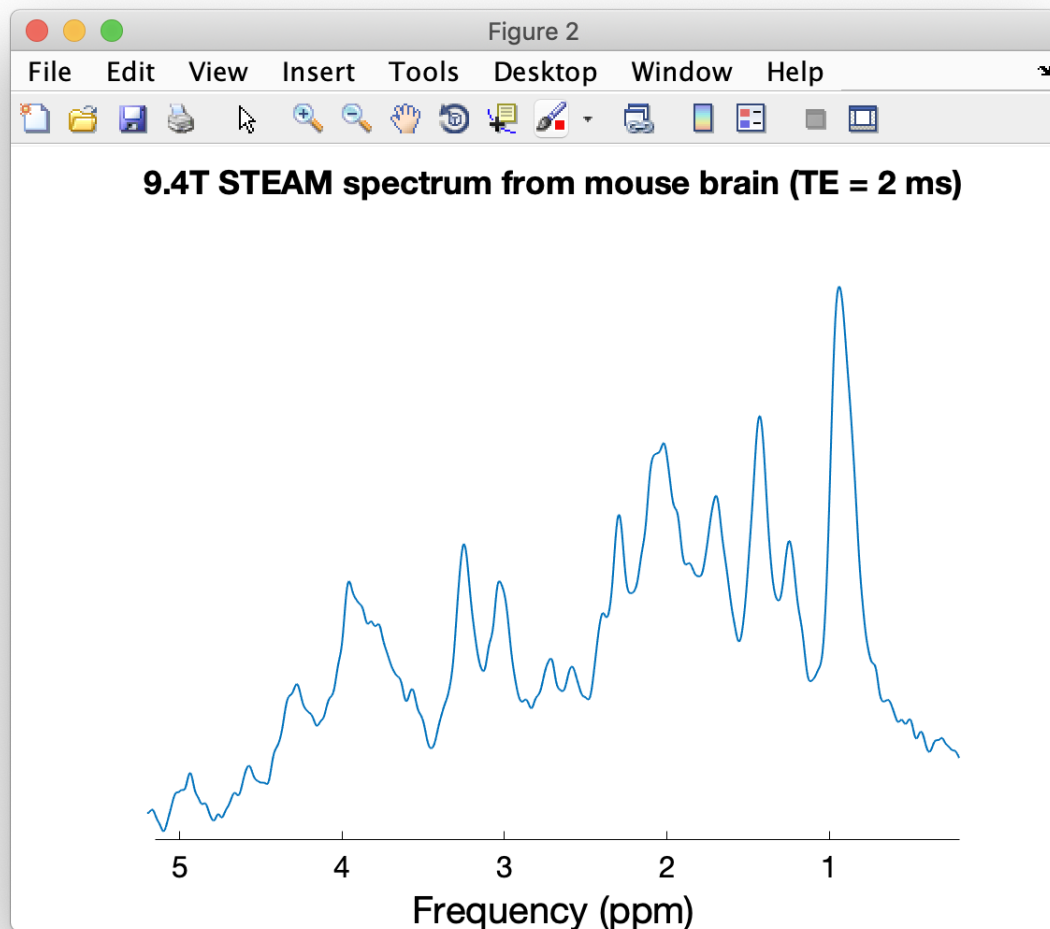
9.4T STEAM rat brain (TE = 2 ms)

```
filename = 'MM_database/9.4T_MM_rat_STEAM_CMRR.fid';  
Rat94T_MM = io_loadspec_varian(filename);  
op_plotspec(Rat94T_MM, 0.2, 5.2, 'Frequency (ppm)', '', '9.4T STEAM spectrum from rat brain (TE = 2 ms)');
```



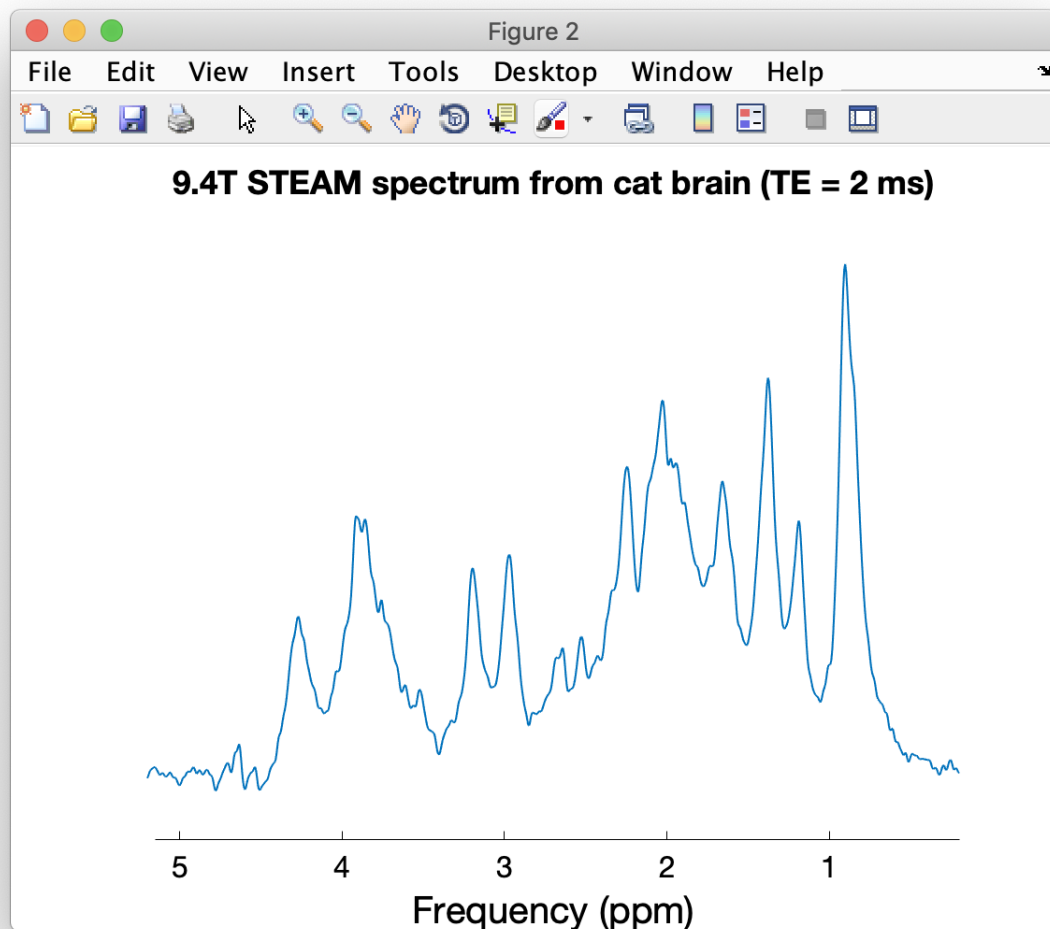
9.4T STEAM mouse brain (TE = 2 ms)

```
filename = 'MM_database/9.4T_MM_mouse_STEAM_CMRR.fid';  
Mouse94T_MM = io_loadspec_varian(filename);  
op_plotspec(Mouse94T_MM, 0.2, 5.2, 'Frequency (ppm)', '', '9.4T STEAM spectrum from mouse brain (TE = 2 ms)')
```



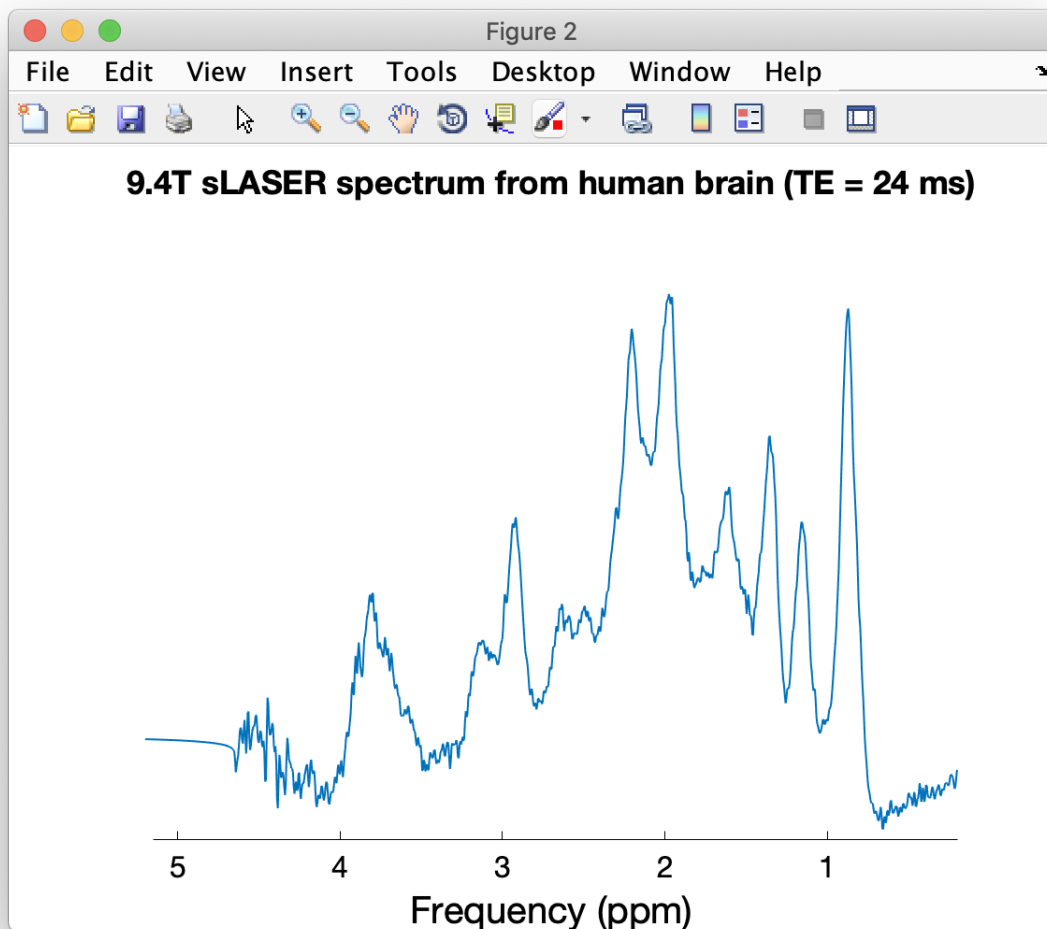
9.4T STEAM cat brain (TE = 2 ms)

```
filename = 'MM_database/9.4T_MM_cat_STEAM_CMRR.fid';  
Cat94T_MM = io_loadspec_varian(filename);  
op_plotspec(Cat94T_MM, 0.2, 5.2, 'Frequency (ppm)', '', '9.4T STEAM spectrum from cat brain (TE = 2 ms)');
```



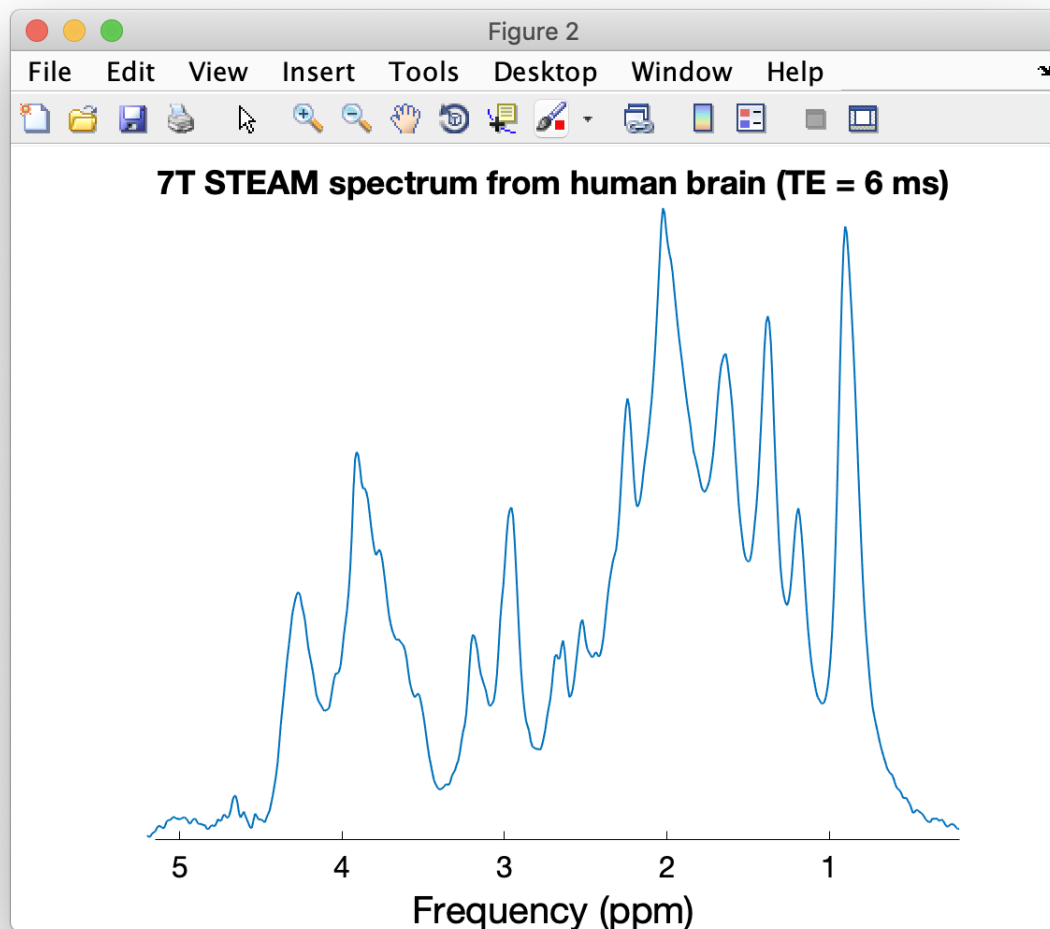
9.4T sLASER human brain (TE = 24 ms)

```
filename = 'MM_database/9.4T_MM_human_sLASER_Tubingen.fid';  
Human94T_MM = io_loadspec_varian(filename);  
op_plotspec(Human94T_MM, 0.2, 5.2, 'Frequency (ppm)', '', '9.4T sLASER spectrum from human brain (TE = 24 ms)')
```



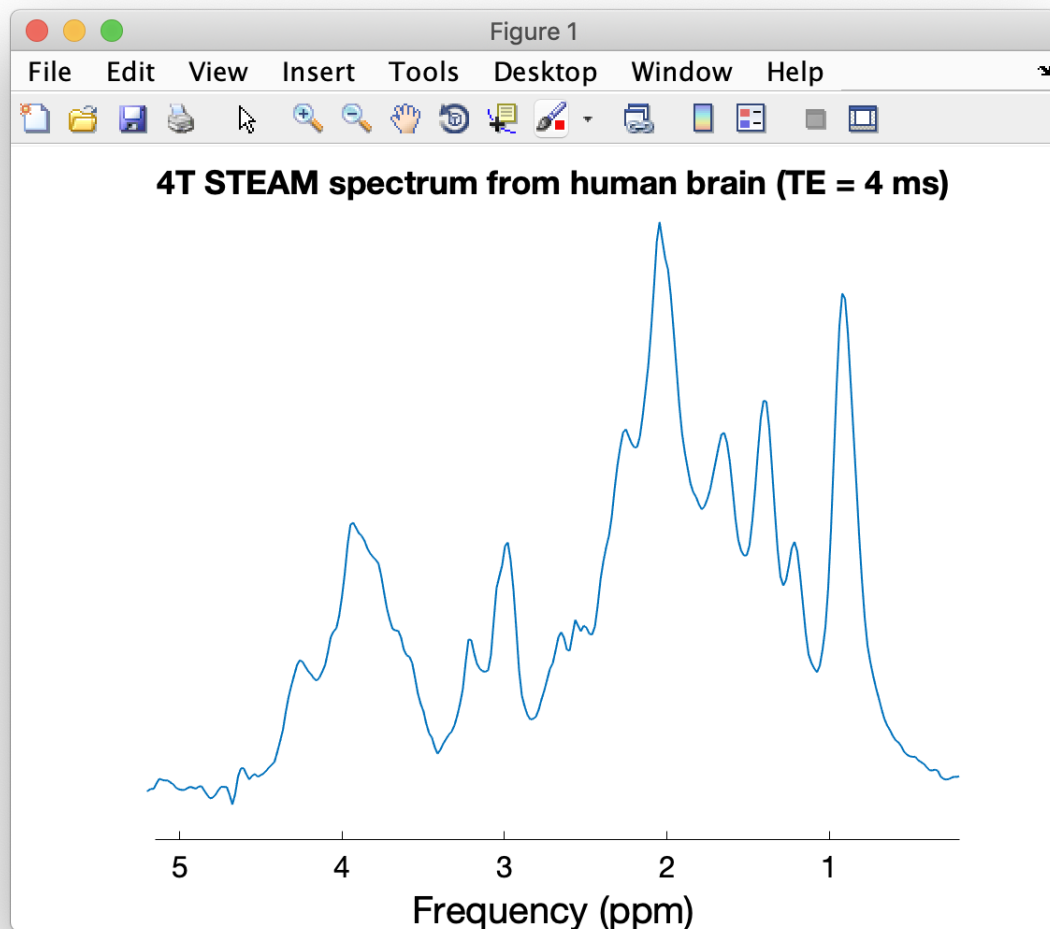
7T STEAM human brain (TE = 6 ms)

```
filename = 'MM_database/7T_MM_human_STEAM_CMRR.fid';  
Human7T_MM = io_loadspec_varian(filename);  
op_plotspec(Human7T_MM, 0.2, 5.2, 'Frequency (ppm)', '', '7T STEAM spectrum from human brain (TE = 6 ms)');
```



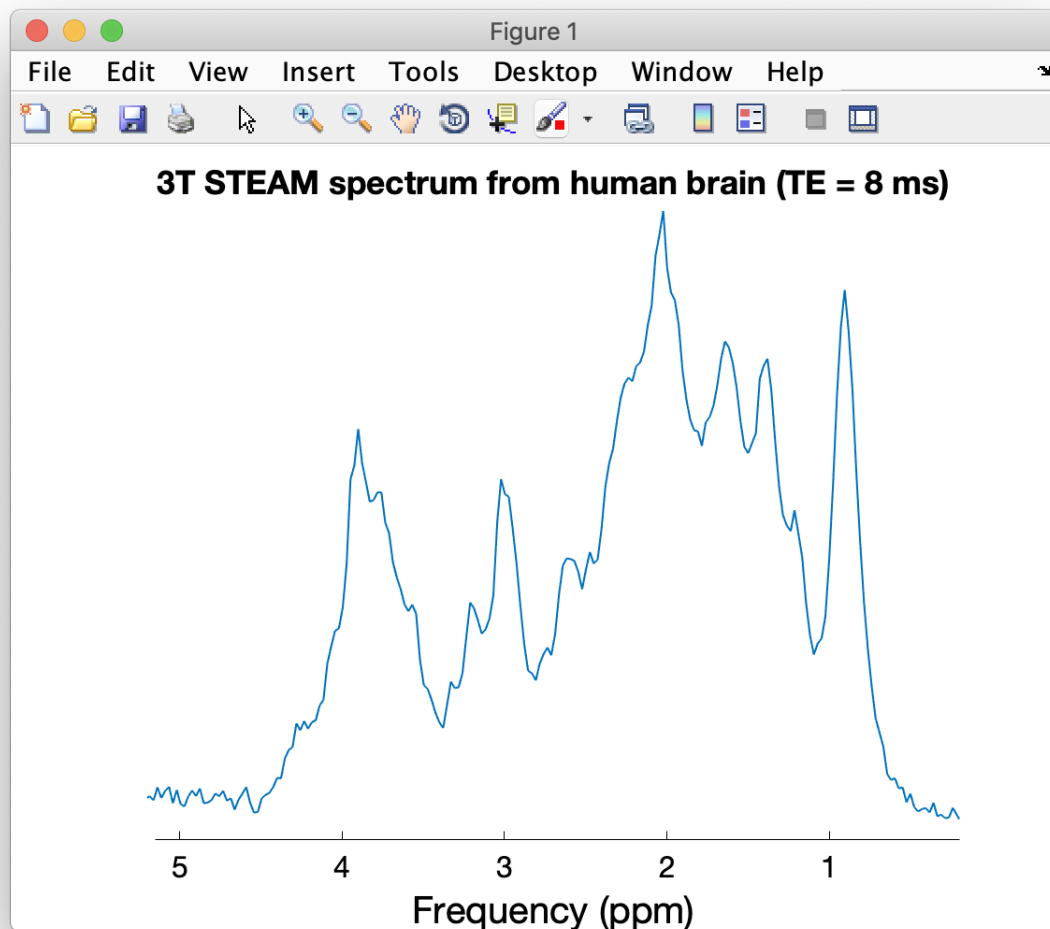
4T STEAM human brain (TE = 4 ms)

```
filename = 'MM_database/4T_MM_human_STEAM_CMRR.fid';  
Human4T_MM = io_loadspec_varian(filename);  
op_plotspec(Human4T_MM, 0.2, 5.2, 'Frequency (ppm)', '', '4T STEAM spectrum from human brain (TE = 4 ms)');
```



3T STEAM human brain (TE = 8 ms)

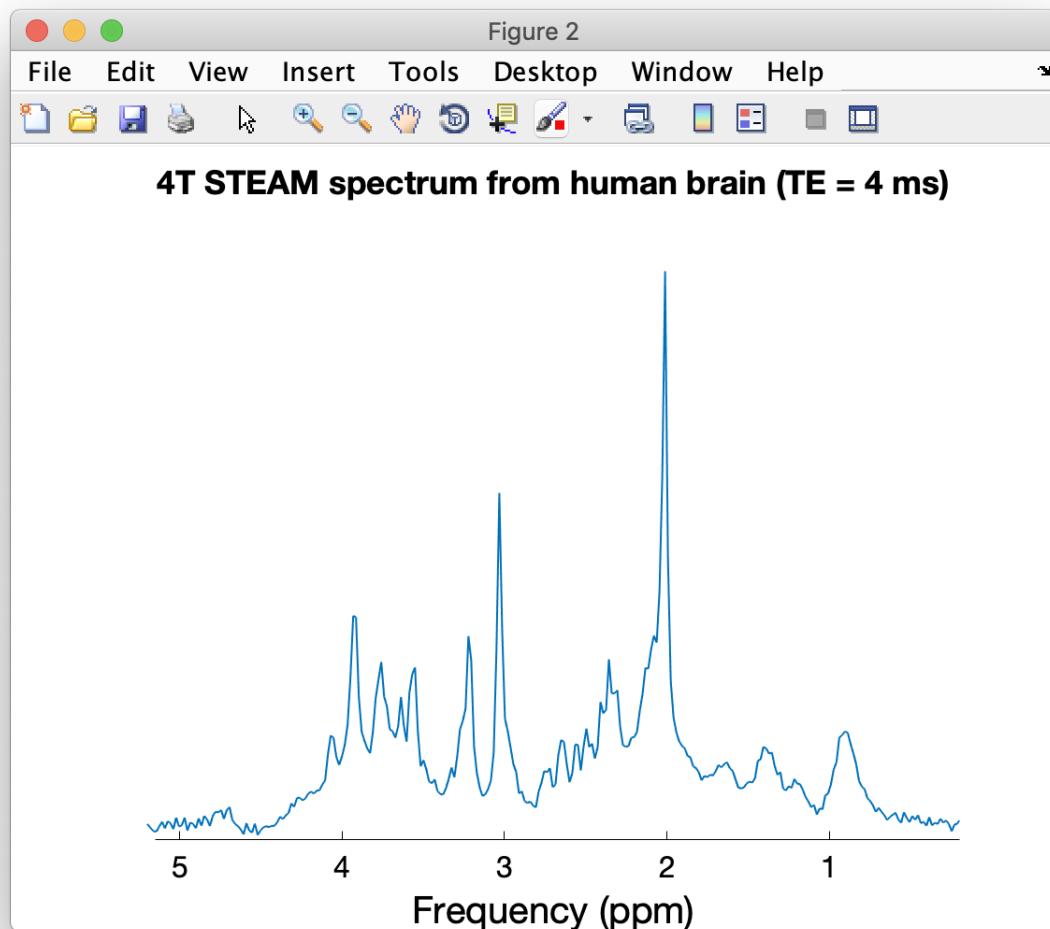
```
filename = 'MM_database/3T_MM_human_STEAM_CMRR.fid';  
Human3T_MM = io_loadspec_varian(filename);  
op_plotspec(Human3T_MM, 0.2, 5.2, 'Frequency (ppm)', '', '3T STEAM spectrum from human brain (TE = 8 ms)');
```

1H-MRS datasets

4T STEAM human brain (TE = 4 ms)

```
filename = 'STEAM_human_spectra/4T_STEAM_TE4ms_human.fid';
Human4T = io_loadspec_varian(filename);
op_plotspec(Human4T, 0.2, 5.2, 'Frequency (ppm)', '', '4T STEAM spectrum from human brain (TE = 4 ms)');
```



7T STEAM human brain (TE = 6 ms)

```
filename = 'STEAM_human_spectra/7T_STEAM_TE6ms_human.fid';  
Human7T_1hmrs = io_loadspec_varian(filename);  
op_plotspec(Human7T, 0.2, 5.2, 'Frequency (ppm)', '', '7T STEAM spectrum from human brain (TE = 6 ms)');
```

