Multi-echo FLASH

Use Matlab (Pete) to process the raw data, do the coil combination from the scanner and then export as a DICOM file, instead of directly using the DICOM file generated by the scanner, consistency.

* + - ka-SPGR

Summing images acquired with corresponding phase modulation weighting as described in the theory part to get each configuration state in k-space. Then shift each configuration state to the centre of the k-space, partial Fourier filling the k-space to get k-spaces containing only one configuration state. Inverse Fourier transforms k-spaces to get the configuration state’s images.

Use Matlab (Pete) for the reconstruction described above and export it as a DICOM file.

In order to minimise the influence of the exponential fitting algorithm, the number and position of points used to fit the exponential curve should be the same when comparing the two methods. Therefore, to match the acquired data points on the T2\* exponential curve for two methods (Figure X), the multi-echo FLASH TEs start with ka-SPGR’s TE and following by an increment equal to ka-SPGR’s TR as shown in Table X. A 20° flip angle is used to match with ka-SPG aiming at comparing 2 method efficiency, and a 90° flip angle is used to obtain an accurate T2\* ground truth value. Also, the image size and voxel size are matched for all scanning performed.