\\USER\FIL\ROUTINE\32CH STRUCT MULTIPAR\al B1mapping v2b TA: 3:00 PAT: 4 Voxel size: 4.0×4.0×4.0 mm Rel. SNR: 1.00 USER: al_B1mapping_v2b Matrix Coil Mode Auto (Triple) **Properties** Separate Reference scan mode Off Prio Recon Before measurement Image Filter Off After measurement Off Distortion Corr. Load to viewer On Prescan Normalize Off Inline movie Off Normalize Off Auto store images On B1 filter Off Load to stamp segments Off Raw filter Off Load images to graphic Elliptical filter Off Off segments Geometry Auto open inline display Off Start measurement without On System further preparation Off Body Wait for user to start On **HEP** On Start measurements single **HEA** On Routine Positioning mode **REF** Slab group 1 Table position Slabs 1 Table position 0 mm Position Isocenter **MSMA** S-C-T Orientation Transversal Sagittal R >> I Phase enc. dir. R >> L Coronal A >> P Rotation 90.00 deg Transversal F >> H Phase oversampling 0 % Save uncombined Off Slice oversampling 0.0 % Coil Combine Mode Sum of Squares Slices per slab 48 AutoAlign FoV read 256 mm Auto Coil Select Default FoV phase 75.0 % Shim mode Standard Slice thickness 4.0 mm Adjust with body coil Off TR 1 500.00 ms Confirm freq. adjustment Off TR 2 500.00 ms Assume Silicone Off TE 1 37.06 ms ? Ref. amplitude 1H 0.000 V TE 2 18.53 ms Adjustment Tolerance Auto **Averages** Adjust volume Concatenations Position Isocenter Filter None Orientation Transversal Coil elements HEA;HEP 90.00 deg Rotation Contrast A >> P 256 mm Flip angle 90.0 deg R >> L 192 mm Fat suppr. Fat sat. F >> H 192 mm Reconstruction Magnitude **FMRI** Measurements Sequence 0.000 sPause after meas. 1 Dimension 3D 0.000 sPause after meas. 2 Contrasts Pause after meas. 3 0.000 sBandwidth 2298 Hz/Px Pause after meas. 4 0.000 sPause after meas. 5 0.000 s800 [us] **Eddy Current Delay** Pause after meas. 6 $0.000 \, s$ Refoc. Corr 6.0 [%] Pause after meas. 7 0.000 s8 [mT/m*ms] Crush. Ampl. Pause after meas. 8 0.000 sMixing time 31200 [us] Pause after meas. 9 0.000 sMax refoc. angle 230 [deg] Pause after meas. 10 0.000 sDec refoc. angle 10 [deg] Flip angle for ref scans 180 [deg] Resolution No Ref averages Base resolution 64 Dur per 5 degrees 140 [us] 100 % Phase resolution BWT SE/STE factor 6 [us] Slice resolution 100 % No dummy scans 0 Phase partial Fourier Off RF spoil incr. 0.0 [deg] PAT mode **GRAPPA** Crushers permutation On Accel, factor PE 2 Optimized RF duration On

Ref. lines PE

Ref. lines 3D

Accel. factor 3D

48

2 48

 $\verb|\USER\FIL\ROUTINE\32CH_STRUCT_MULTIPAR\gre_field_mapping_1acq_rl| \\$

Voxel size: 3.0×3.0×2.0 mm Rel. SNR: 1.00 SIEMENS: gre_field_mapping

TA: 2:14

Special sat.

None

1A. 2.14	/0xei size. 3.0^3.0^2.0 ii	IIIII Rei. SINR. 1.00 SIEMENS. (gre_lield_mapping
Properties		System	
Prio Recon	Off	Body	Off
Before measurement		HEP	On
After measurement		HEA	On
Load to viewer	On		
Inline movie	Off	Positioning mode	REF
Auto store images	On	Table position	Н
Load to stamp segments	Off	Table position	0 mm
Load images to graphic	Off	MSMA	S-C-T
segments		Sagittal	R >> L
Auto open inline display	Off	Coronal	A >> P
Start measurement without	On	Transversal	F >> H
further preparation		Save uncombined	Off
Wait for user to start	On	Coil Combine Mode	Sum of Squares
Start measurements	single	AutoAlign	 D (11
Routine	· ·	Auto Coil Select	Default
Slice group 1		Shim mode	Standard
Slices	64	Adjust with body coil	Off
Dist. factor	50 %	Confirm freq. adjustment	Off
Position	Isocenter	Assume Silicone	Off
Orientation	Transversal	? Ref. amplitude 1H	0.000 V
Phase enc. dir.	R >> L	Adjustment Tolerance	Auto
Rotation	90.00 deg	Adjust volume	
Phase oversampling	0 %	Position	Isocenter
FoV read	192 mm	Orientation	Transversal
FoV read FoV phase	100.0 %	Rotation	90.00 deg
Slice thickness	2.0 mm	A >> P	192 mm
TR	1020 ms	R >> L	192 mm
TE 1	10.00 ms	F >> H	191 mm
TE 2	12.46 ms	Commence	
Averages	12.40 IIIS	Sequence	
Concatenations	1	Introduction	On
Filter	None	Dimension	2D
Coil elements	HEA;HEP	Asymmetric echo	Off
Con elements	ПЕА,ПЕР	Contrasts	2
Contrast		Bandwidth	260 Hz/Px
MTC	Off	Flow comp.	Yes
Flip angle	90 deg	RF pulse type	Normal
Fat suppr.	None	Gradient mode	Fast
Averaging mode	Long term	RF spoiling	On
Reconstruction	Magn./Phase	, , ,	
Measurements	1 Niagn./Filase		
Multiple series	Off		
1	Oil		
Resolution	0.4		
Base resolution	64		
Phase resolution	100 %		
Phase partial Fourier	Off		
Interpolation	Off		
Matrix Coil Mode	Auto (CP)		
Image Filter	Off		
Distortion Corr.	Off		
Prescan Normalize	Off		
Normalize	Off		
B1 filter	Off		
Raw filter	Off		
Elliptical filter	Off		
Geometry			
Multi-slice mode	Interleaved		
Series	Descending		

 $\verb|\USER\FIL\ROUTINE\32CH_STRUCT_MULTIPAR\mt_nw_mtflash3d_v2d|$

Rel. SNR: 1.00

USER: nw_mtflash3d_v2d

Voxel size: 1.0×1.0×1.0 mm

TA: 6:47

PAT: 2

		Matrix Coil Mode	CP
Properties		- Reference scan mode	Integrated
Prio Recon	Off		
Before measurement		Image Filter	Off
After measurement		Distortion Corr.	Off
Load to viewer	On	Prescan Normalize	Off
Inline movie	Off	Normalize	Off
Auto store images	On	B1 filter	Off
Load to stamp segments	Off	Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments	Oli	Liliptical litter	Oli
	Off	Geometry	
Auto open inline display		2	
Start measurement without	On	System	
further preparation		Body	Off
Wait for user to start	On	HEP	On
Start measurements	single	HEA	On
Routine			DEE
		Positioning mode	REF
Slab group 1	4	Table position	H
Slabs	1	Table position	0 mm
Position	Isocenter	MSMA	S - C - T
Orientation	Sagittal	Sagittal	R >> L
Phase enc. dir.	A >> P	Coronal	A >> P
Rotation	0.00 deg	Transversal	F >> H
Slice oversampling	0.0 %	Save uncombined	Off
Slices per slab	176	Coil Combine Mode	Sum of Squares
FoV read	256 mm		-
FoV phase	93.8 %	AutoAlign	 D (#
		Auto Coil Select	Default
Slice thickness	1.00 mm	Shim mode	Standard
TR	23.70 ms		Off
TE 1	2.20 ms	Adjust with body coil	
TE 2	4.70 ms	Confirm freq. adjustment	Off
TE 3	7.20 ms	Assume Silicone	Off
TE 4	9.70 ms	? Ref. amplitude 1H	0.000 V
TE 5	12.20 ms	Adjustment Tolerance	Auto
TE 6	14.70 ms	Adjust volume	
TE 7	0.00 ms	Position	Isocenter
TE 8	0.00 ms	Orientation	Sagittal
		Rotation	0.00 deg
TE 9	0.00 ms	F >> H	256 mm
TE 10	0.00 ms	A >> P	240 mm
TE 11	0.00 ms		
TE 12	0.00 ms	R >> L	176 mm
TE 13	0.00 ms	Sequence	
TE 14	0.00 ms	Dimension	3D
TE 15	0.00 ms	Contrasts	6
TE 16	0.00 ms	Bandwidth	425 Hz/Px
Concatenations	1	Danuwiulii	₩ZJ Z/F X
Filter	None	RF spoiling	On
Coil elements	HEA;HEP		
Con elements	1 ILA,1 ILI	MT saturation mode	Gaussian off-resonant
Contrast		MT repetition factor	1
MTC	On	Balanced MT saturation	Off
Flip angle	6 deg	FA Gaussian	220 [deg]
aa.o		Duration Gaussian	4000 [us]
Reconstruction	Magn./Phase	Off-resonance Gaussian	2000 [Hz]
Deschation		RF spoil incr.	50.0 [deg]
Resolution		RF spoil incr.	
Base resolution	256		Rectangular (non-sel.)
Phase resolution	100 %	GRAPPA+RefScans	On
Slice resolution	100 %	Spoiler amplitude	20.0 [mT/m]
Phase partial Fourier	Off	Dur. Prew. Ramp	150 [us]
Slice partial Fourier	6/8	Dur. Prew. Flat	600 [us]
		Dur. RO Ramp	60 [us]
PAT mode	GRAPPA	Dur. Spoil. Flat	1000 [us]
Accel. factor PE	2	1	L J
Ref. lines PE	18		
Accel, factor 3D	1		
1			

 $\verb|\USER\FIL\ROUTINE\32CH_STRUCT_MULTIPAR\pd_nw_mtflash3d_v2d|$

Rel. SNR: 1.00

USER: nw_mtflash3d_v2d

Voxel size: 1.0×1.0×1.0 mm

TA: 6:47

PAT: 2

D		Matrix Coil Mode	CP
Properties		Reference scan mode	Integrated
Prio Recon	Off		
Before measurement		Image Filter	Off
After measurement		Distortion Corr.	Off
Load to viewer	On	Prescan Normalize	Off
Inline movie	Off	Normalize	Off
Auto store images	On	B1 filter	Off
Load to stamp segments	Off	Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments			
Auto open inline display	Off	Geometry	
Start measurement without	On	Custom	
	Oli	System	0.55
further preparation	0.5	Body	Off
Wait for user to start	On	HEP	On
Start measurements	single	HEA	On
Routine		Positioning mode	REF
Slab group 1	_	Positioning mode	
	1	Table position	Н
Slabs	1	Table position	0 mm
Position	Isocenter	MSMA	S - C - T
Orientation	Sagittal	Sagittal	R >> L
Phase enc. dir.	A >> P	Coronal	A >> P
Rotation	0.00 deg	Transversal	F >> H
Slice oversampling	0.0 %	Save uncombined	Off
Slices per slab	176	Coil Combine Mode	Sum of Squares
FoV read	256 mm	AutoAlign	
FoV phase	93.8 %	Auto Coil Select	Default
Slice thickness	1.00 mm		_ 0.000.
TR	23.70 ms	Shim mode	Standard
TE 1	2.20 ms	Adjust with body coil	Off
TE 2	4.70 ms	Confirm freq. adjustment	Off
TE 3	7.20 ms	Assume Silicone	Off
		? Ref. amplitude 1H	0.000 V
TE 4	9.70 ms	Adjustment Tolerance	Auto
TE 5	12.20 ms	Adjust volume	, ato
TE 6	14.70 ms	Position	Isocontor
TE 7	17.20 ms		Isocenter
TE 8	19.70 ms	Orientation	Sagittal
TE 9	0.00 ms	Rotation	0.00 deg
TE 10	0.00 ms	F >> H	256 mm
TE 11	0.00 ms	A >> P	240 mm
TE 12	0.00 ms	R >> L	176 mm
TE 13	0.00 ms	Saguenee	
TE 14	0.00 ms	Sequence	0.0
TE 15	0.00 ms	Dimension	3D
TE 16		Contrasts	8
	0.00 ms	Bandwidth	425 Hz/Px
Concatenations	1	DE spoiling	On
Filter	None	RF spoiling	On
Coil elements	HEA;HEP	MT saturation mode	Gaussian off-resonant
Contrast		MT repetition factor	1
MTC	Off	Balanced MT saturation	Off
	6 deg	FA Gaussian	220 [deg]
Flip angle	o ueg	Duration Gaussian	4000 [us]
Reconstruction	Magn./Phase		
1	- 	Off-resonance Gaussian	2000 [Hz]
Resolution		RF spoil incr.	50.0 [deg]
Base resolution	256	RF excitation	Rectangular (non-sel.)
Phase resolution	100 %	GRAPPA+RefScans	On
Slice resolution	100 %	Spoiler amplitude	20.0 [mT/m]
Phase partial Fourier	Off	Dur. Prew. Ramp	150 [us]
Slice partial Fourier	6/8	Dur. Prew. Flat	600 [us]
		Dur. RO Ramp	60 [us]
PAT mode	GRAPPA	Dur. Spoil. Flat	1000 [us]
Accel. factor PE	2	1	<u>-</u> <u>-</u>
Ref. lines PE	18		
Accel. factor 3D	1		
1			

 $\verb|\USER|FIL\ROUTINE|32CH_STRUCT_MULTIPAR|t1_nw_mtflash3d_v2d|$

Rel. SNR: 1.00

USER: nw_mtflash3d_v2d

Voxel size: 1.0×1.0×1.0 mm

TA: 5:21

PAT: 2

		Matrix Coil Mode	CP
Properties		Reference scan mode	Integrated
Prio Recon	Off		
Before measurement		Image Filter	Off
After measurement		Distortion Corr.	Off
Load to viewer	On	Prescan Normalize	Off
Inline movie	Off	Normalize	Off
Auto store images	On	B1 filter	Off
Load to stamp segments	Off	Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments	OII	Liliptical litter	Oli
	Off	Geometry	
Auto open inline display		0 1	
Start measurement without	On	System	
further preparation	_	Body	Off
Wait for user to start	On	HEP	On
Start measurements	single	HEA	On
Routine			DEE
		Positioning mode	REF
Slab group 1	4	Table position	H
Slabs	1	Table position	0 mm
Position	Isocenter	MSMA	S - C - T
Orientation	Sagittal	Sagittal	R >> L
Phase enc. dir.	A >> P	Coronal	A >> P
Rotation	0.00 deg	Transversal	F >> H
Slice oversampling	0.0 %	Save uncombined	Off
Slices per slab	176	Coil Combine Mode	Sum of Squares
FoV read	256 mm		-
FoV phase	93.8 %	AutoAlign	 D ()
		Auto Coil Select	Default
Slice thickness	1.00 mm	Shim mode	Standard
TR	18.70 ms		Off
TE 1	2.20 ms	Adjust with body coil	
TE 2	4.70 ms	Confirm freq. adjustment	Off
TE 3	7.20 ms	Assume Silicone	Off
TE 4	9.70 ms	? Ref. amplitude 1H	0.000 V
TE 5	12.20 ms	Adjustment Tolerance	Auto
TE 6	14.70 ms	Adjust volume	
TE 7	0.00 ms	Position	Isocenter
TE 8	0.00 ms	Orientation	Sagittal
		Rotation	0.00 deg
TE 9	0.00 ms	F >> H	256 mm
TE 10	0.00 ms	A >> P	240 mm
TE 11	0.00 ms		
TE 12	0.00 ms	R >> L	176 mm
TE 13	0.00 ms	Sequence	
TE 14	0.00 ms	Dimension	3D
TE 15	0.00 ms	Contrasts	6
TE 16	0.00 ms	Bandwidth	6 425 Hz/Px
Concatenations	1	Danuwidin	420 NZ/FX
Filter	None	RF spoiling	On
Coil elements	HEA;HEP		
Con elements	1 ILA,1 ILI	MT saturation mode	Gaussian off-resonant
Contrast		MT repetition factor	1
MTC	Off	Balanced MT saturation	Off
Flip angle	20 deg	FA Gaussian	220 [deg]
aa.o		Duration Gaussian	4000 [us]
Reconstruction	Magn./Phase	Off-resonance Gaussian	2000 [Hz]
	-	RF spoil incr.	50.0 [deg]
Resolution		RF spoil incr.	
Base resolution	256		Rectangular (non-sel.)
Phase resolution	100 %	GRAPPA+RefScans	On
Slice resolution	100 %	Spoiler amplitude	20.0 [mT/m]
Phase partial Fourier	Off	Dur. Prew. Ramp	150 [us]
Slice partial Fourier	6/8	Dur. Prew. Flat	600 [us]
		Dur. RO Ramp	60 [us]
PAT mode	GRAPPA	Dur. Spoil. Flat	1000 [us]
Accel. factor PE	2	I Programme	
Ref. lines PE	18		
Accel, factor 3D	1		
1			