\\USER\UserProtocols\Renzo\VASO_training_session\3D_Localizer_250V			
TA: 0:23 F	PAT: 2 Voxel size: 1.2×1.1×3.	.0 mm Rel. SNR: 1.00 S	SIEMENS: gre
Properties		Phase partial Fourier	6/8
Prio Recon	Off	Interpolation	On
Before measurement		PAT mode	GRAPPA
After measurement		Accel. factor PE	2
Load to viewer	On	Ref. lines PE	24
Inline movie	Off	Reference scan mode	Integrated
Auto store images	On	Image Filter	Off
Load to stamp segments	Off	Distortion Corr.	Off
Load images to graphic	Off	Prescan Normalize	Off
segments	0"	Normalize	Off
Auto open inline display	Off	B1 filter	Off
Start measurement without	On	Raw filter	Off
further preparation Wait for user to start	On	Elliptical filter	On
Start measurements		Mode	Inplane
Start measurements	single	Goomotry	•
Routine		Geometry Multi-slice mode	Sequential
Slice group 1	45	Series	Interleaved
Slices	15		
Dist. factor	100 %	Saturation mode	Standard
Position	Isocenter	Special sat.	None
Orientation	Sagittal		
Phase enc. dir.	A >> P	Table position	Н
Rotation Slice group 2	0.00 deg	Table position	0 mm
Slice group 2 Slices	5	Inline Composing	Off
Dist. factor	5 100 %	Tim CT mode	Off
Position	Isocenter	1	
Orientation	Coronal	System	
Phase enc. dir.	R >> L	V32	Off
Rotation	0.00 deg	A32	On
Slice group 3	3	Positioning mode	REF
Slices	5	MSMA	S - C - T
Dist. factor	100 %	Sagittal	R >> L
Position	Isocenter	Coronal	A >> P
Orientation	Transversal	Transversal	F >> H
Phase enc. dir.	A >> P	Save uncombined	Off
Rotation	0.00 deg	Coil Combine Mode	Adaptive Combine
Phase oversampling	0 %	AutoAlign	
FoV read	280 mm	Auto Coil Select	Default
FoV phase	100.0 %	Shim mode	Tune up
Slice thickness	3.0 mm	Adjust with body coil	Off
TR TE	8.6 ms	Confirm freq. adjustment	Off
	2.89 ms 1	Assume Silicone	Off
Averages Concatenations	1 25	! Ref. amplitude 1H	250.000 V
Filter	Elliptical filter	Adjustment Tolerance	Auto
Coil elements	A32	Adjust volume	
1		Position	Isocenter
Contrast		Orientation	Transversal
TD	0 ms	Rotation	0.00 deg
MTC Magn propagation	Off	R >> L	350 mm
Magn. preparation	None	A >> P	263 mm
Flip angle	20 deg	F >> H	350 mm
Fat suppr.	None	Physio	
Water suppr. SWI	None Off	1st Signal/Mode	None
		Segments	1
Averaging mode	Short term		None
Reconstruction	Magnitude	Tagging Dark blood	None Off
Measurements	<u>1</u> .	DAIN DIOUG	OII
Multiple series	Each measurement	Resp. control	Off
Resolution		Inline	
Base resolution	256	Subtract	Off

Subtract

Off

Base resolution

Phase resolution

256

90 %

Liver registration	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Mont	None
MapIt	None
Contrasts	1

Sequence

•	
Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Bandwidth	320 Hz/Px
Flow comp.	No
 RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On
. 0	

\\USER\UserProtocols\Renzo\VASO_training_session\Quin_pilot_250_V1
TA: 1:05 PAT: Off Voxel size: 1.0×1.0×5.0 mm Rel. SNR: 1.00 SIEMENS: tfl

Properties		Interpolation	Off
Prio Recon	Off	PAT mode	None
Before measurement	3		
After measurement		Image Filter	Off
Load to viewer	On	Distortion Corr.	Off
Inline movie	Off	Prescan Normalize	Off
Auto store images	On	Normalize	Off
Load to stamp segments	Off	B1 filter	Off
Load images to graphic	Off	Raw filter	Off
segments		Elliptical filter	Off
Auto open inline display	Off	Geometry	
Start measurement without	Off	Multi-slice mode	Sequential
further preparation		Series	Ascending
Wait for user to start	Off		
Start measurements	single	Table position	Н
Routine		Table position	0 mm
Slice group 1		Inline Composing	Off
Slices	9	System	
Dist. factor	80 %	V32	Off
Position	R4.0 A16.1 F1.1	A32	On
Orientation	Sagittal		OII
Phase enc. dir.	A >> P	Positioning mode	REF
Rotation	0.00 deg	MSMA	S - C - T
Slice group 2		Sagittal	R >> L
Slices	5	Coronal	A >> P
Dist. factor	80 %	Transversal	F >> H
Position	L0.0 A16.7 H16.4	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	
Rotation	0.00 deg	Auto Coil Select	Default
Slice group 3		Shim mode	Tune up
Slices	7	Adjust with body coil	Off
Dist. factor	80 %	Confirm freq. adjustment	Off
Position	L0.0 P29.8 F0.6	Assume Silicone	Off
Orientation	Coronal	! Ref. amplitude 1H	220.000 V
Phase enc. dir.	R >> L	Adjustment Tolerance	Auto
Rotation	0.00 deg	Adjust volume	
Phase oversampling FoV read	0 %	Position	Isocenter
	200 mm	Orientation	Transversal
FoV phase Slice thickness	100.0 % 5.0 mm	Rotation	0.00 deg
TR	3000 ms	R >> L	350 mm
TE	3.17 ms	A >> P	263 mm
Averages	1	F >> H	350 mm
Concatenations	21	Physio	
Filter	None	1st Signal/Mode	None
Coil elements	A32		
1	7.02	Dark blood	Off
Contrast		Resp. control	Off
TD	0 ms	i '	Oll
Magn. preparation	Slice-sel. IR	Inline	
TI .	1100 ms	Subtract	Off
Flip angle	6 deg	Std-Dev-Sag	Off
Fat suppr.	None	Std-Dev-Cor	Off
Water suppr.	None	Std-Dev-Tra	Off
Averaging mode	Long term	Std-Dev-Time	Off
Reconstruction	Magnitude	MIP-Sag	Off
Measurements	1	MIP-Cor	Off
Multiple series	Each measurement	MIP-Tra	Off
•		MIP-Time	Off
Resolution	102	Save original images	On
Base resolution	192	1	
Phase resolution	100 %	Sequence	
Phase partial Fourier	Off	2/	

Introduction Dimension Asymmetric echo Bandwidth Flow comp. Echo spacing	On 2D Off 240 Hz/Px No 6.4 ms
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

\\USER\UserProtocols\Renzo\VASO_training_session\26_slices_assym_TR5s_Version_129_291trs
TA: 0:14 PAT: 3 Voxel size: 0.8×0.8×0.8 mm Rel. SNR: 1.00 USER: VASO_124

		PAT mode	GRAPPA
Properties		Accel. factor PE	3
Prio Recon	Off	Ref. lines PE	45
Before measurement		Accel. factor 3D	1
After measurement	0	Ref. lines 3D	22
Load to viewer	On O#	Reference scan mode	Separate
Inline movie	Off	Dragge Name die	O#
Auto store images	On Off	Prescan Normalize	Off Off
Load to stamp segments	Off	Raw filter	Off Off
Load images to graphic segments	Oil	Elliptical filter Hamming	Off
Auto open inline display	Off	Паппппу	Oli
Start measurement without	On	Geometry	
further preparation	Oli	Multi-slice mode	Interleaved
Wait for user to start	Off	Series	Ascending
Start measurements	single	Special sat.	Parallel F
1	3.1.9.3	Gap	25.0 mm
Routine		Thickness	100 mm
Slab group 1			
Slabs	1	Table position	Н
Dist. factor	50 %	Table position	0 mm
Position	R1.4 A21.2 F2.4	Inline Composing	Off
Orientation	T > C-15.9	System	
Phase enc. dir.	A >> P	V32	Off
Rotation	0.00 deg	A32	On
Phase oversampling Slice oversampling	0 % 7.7 %		
Slice oversampling Slices per slab	7.7 % 26	Positioning mode	REF
FoV read	133.0 mm	MSMA	S - C - T
FoV read FoV phase	133.3 %	Sagittal	R >> L
Slice thickness	0.82 mm	Coronal	A >> P
TR	2837.90 ms	Transversal	F >> H
I TE	257.90 ms 25 ms	Save uncombined	Off
Averages	1	Coil Combine Mode	Sum of Squares
Concatenations	1	AutoAlign	
Filter	None	Auto Coil Select	Default
Coil elements	A32	Shim mode	Standard
	7102	Adjust with body coil	Off
Contrast		Confirm freq. adjustment	Off
Perfusion mode	SS-SI VASO	Assume Silicone	Off
TI2	650 ms	! Ref. amplitude 1H	220.000 V
TI1	50 ms	Adjustment Tolerance	Auto
TI1s	50 ms	Adjust volume	
Flip angle	26 deg	! Position	Isocenter
Fat suppr.	Fat sat.	! Orientation	Transversal
Fat sat. mode	Strong	! Rotation	90.00 deg
Averaging mode	Long term	! A >> P	178 mm
Reconstruction	Magnitude	! R >> L	133 mm
Measurements	5	! F >> H	22 mm
Delay in TR	0 ms	Physio	
Multiple series	Off	1st Signal/Mode	None
		•	None
Perfusion mode	PICORE Q2T	BOLD	
Inversion time 1	50 ms	Motion correction	Off
Saturation stop time	50 ms	Spatial filter	Off
Inversion time 2	650.0 ms	Seguence	
Flow limit	100 cm/s	Sequence	On
Resolution		Introduction	On 3D
Base resolution	162	Dimension	
Phase resolution	100 %	Reordering	Linear
Slice resolution	100 %	Contrasts	1 1064 Hz/Px
Phase partial Fourier	6/8	Bandwidth	Off
Slice partial Fourier	Off	Free echo spacing	Οπ 1.04 ms
Interpolation	Off	Echo spacing	1.04 1110
-		EPI factor	216

RF pulse type Gradient mode Excitation RF spoiling	Normal Normal Slab-sel. On
Ampl BWDTH ph.skip 4 Robert (the one) use Ernst angle Maxwell Correction log physio files FFT scale dummy prepscan time z shim RF duration RF BWTP Renzo: Delta TI EFFECTIVE TR PatPartitions EPI phase correction PAT refscan mode FlashRef BaseRes FlashRef BW FlashRef TE FlashRef FA use CAIPI	150 150 3.1kHz 1 Off Off Off Off 3.00 3 s 0.00 mT/m*ms 2000 us 25.0 75 ms 79461 ms 28 local Flash 162 100 Hz/px 6500 us 5 deg Off

\\USER\UserP	rotocols\F	Renzo\VASO_training_session	on\MP2RAGE_sla	ab_0.5x05x0.5_T1_POCS8
TA: 16:14	PAT: 2	Voxel size: 0.5×0.5×0.5 mm	Rel. SNR: 1.00	USER: tfl_wip900b17a

Properties		Image Filter	Off
Prio Recon	Off	Distortion Corr.	Off
Before measurement		Prescan Normalize	Off
After measurement		Raw filter	Off
Load to viewer	On	Elliptical filter	Off
Inline movie	Off	Geometry	
Auto store images	On	Multi-slice mode	Cinale shot
Load to stamp segments	Off		Single shot
Load images to graphic	Off	Series	Interleaved
segments			
Auto open inline display	Off	Table position	H
Start measurement without	On	Table position	0 mm
further preparation		Inline Composing	Off
Wait for user to start	Off	System	
Start measurements	single	V32	Off
Pouting	G	A32	On
Routine			
Slab group 1	4	Positioning mode	FIX
Slabs	1	MSMA	S - C - T
Dist. factor	50 %	Sagittal	R >> L
Position	R1.4 A23.8 F4.1	Coronal	A >> P
Orientation	T > C-14.0	Transversal	F >> H
Phase enc. dir.	A >> P	Save uncombined	Off
Rotation	0.00 deg	Coil Combine Mode	Adaptive Combine
Phase oversampling	0 %	AutoAlign	·
Slice oversampling	0.0 %	Auto Coil Select	Default
Slices per slab	72		0
FoV read	191 mm	Shim mode	Standard
FoV phase	100.0 %	Adjust with body coil	Off
Slice thickness	0.50 mm	Confirm freq. adjustment	Off
TR	6000 ms	Assume Silicone	Off
TE	4.16 ms	! Ref. amplitude 1H	277.000 V
Averages	1	Adjustment Tolerance	Auto
Concatenations	1	Adjust volume	
Filter	None	! Position	L0.0 A28.5 F2.6
Coil elements	A32	! Orientation	T > C-12.8
Contrast		! Rotation	90.00 deg
	Non cal ID	! A >> P	178 mm
Magn. preparation	Non-sel. IR	! R >> L	133 mm
TI 1	900 ms	! F >> H	36 mm
TI 2	2900 ms	Physio	
Flip angle 1	6 deg	1st Signal/Mode	None
Flip angle 2	7 deg	15t Signal/Wode	
Fat suppr.	None	Dark blood	Off
Water suppr.	None		
2nd Inversion Contrast	On	Resp. control	Off
Averaging mode	Long term	Composing	
Reconstruction	Magn./Phase	Sequence	
Measurements	3	Introduction	
Pause after meas. 1	0.0 s		On 3D
Pause after meas. 2	0.0 s	Dimension	
Multiple series	Each measurement	Elliptical scanning	Off
Posalution		Asymmetric echo	Off
Resolution Base resolution	380	Contrasts Bandwidth	1 100 H=/Dy
			190 Hz/Px
Phase resolution	100 %	Flow comp.	No
Slice resolution	100 %	Echo spacing	8.5 ms
Phase partial Fourier	Off	RF pulse type	Fast
Slice partial Fourier	6/8	Gradient mode	Fast
PAT mode	GRAPPA	Excitation	Slab-sel.
Accel. factor PE	2	RF spoiling	On
Ref. lines PE	24		
Accel. factor 3D	_ · 1	FFT Scale Factor	150 %
Reference scan mode	Integrated	Morphometry Analysis	Off
1	ogratod	•	

FID MoCo Logging	Off
FID Coil Phase Corr.	Off
LIN/PAR Swap	On
Ext. INV Pulse	On
Flip Angle	1400
Phase Filter	0 px
Uniform Image	On
Head Mask on UNI	Off
T1 Map	On
Complex Div. Image	On
Denoise Weighting	150
FLAWS	Off

\\USER\UserProtocols\Renzo\VASO_training_session\epi_sms3_ip2_2mm_taapping_15s vs 15s TA: 6:18 PAT: 2 Voxel size: 2.0×2.0×2.0 mm Rel. SNR: 1.00 USER: ep2d_bold_sms_mgh_v22

Properties		Special sat.	None
Prio Recon	Off	Table position	Н
Before measurement		Table position	0 mm
After measurement		Inline Composing	Off
Load to viewer	On		
Inline movie	Off	System	
Auto store images	On	V32	Off
Load to stamp segments	Off	A32	On
Load images to graphic	Off	Positioning mode	FIX
segments		MSMA	S - C - T
Auto open inline display	Off	Sagittal	R >> L
Start measurement without	On	Coronal	A >> P
further preparation	3	Transversal	F>> H
Wait for user to start	Off	Coil Combine Mode	Sum of Squares
Start measurements	single	AutoAlign	
Start measurements	Single	Auto Coil Select	Default
Routine		Auto Coil Select	Delault
Slice group 1		Shim mode	Standard
Slices	57	Adjust with body coil	Off
Dist. factor	0 %	Confirm freq. adjustment	Off
Position	L0.0 A19.0 H6.2	Assume Silicone	Off
Orientation	Transversal	! Ref. amplitude 1H	220.000 V
Phase enc. dir.	A >> P	Adjustment Tolerance	Auto
Rotation	0.00 deg	Adjust volume	
Phase oversampling	0 %	! Position	R6.3 A29.3 H24.5
FoV read	195 mm	! Orientation	T > C3.0
FoV phase	100.0 %	! Rotation	0.00 deg
Slice thickness	2.0 mm	! R >> L	120 mm
TR	1000 ms	! A >> P	162 mm
TE	23 ms	! F >> H	50 mm
Averages	1	1 :1 >>11	30 11111
Concatenations	1	Physio	
Filter	None	1st Signal/Mode	None
Coil elements	A32	BOLD	
1	7.02		0.5
Contrast		GLM Statistics	On O"
MTC	Off	Dynamic t-maps	Off
Flip angle	65 deg	Starting ignore meas	0
Fat suppr.	Fat sat.	Ignore after transition	1
Averaging mode	Long term	Model transition states	Off
Reconstruction	Magnitude	Temp. highpass filter	On 4 00
Measurements	360	Threshold	4.00
	0 ms	Paradigm size	30
Delay in TR Multiple series	Off	Meas[1]	Baseline
I multiple series	Oil	Meas[2]	Baseline
Resolution		Meas[3]	Baseline
		NA	Deseller
Base resolution	98	Meas[4]	Baseline
Base resolution Phase resolution	98 100 %	Meas[5]	Baseline
Phase resolution		Meas[5] Meas[6]	Baseline Baseline
	100 %	Meas[5] Meas[6] Meas[7]	Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation	100 % Off Off	Meas[5] Meas[6] Meas[7] Meas[8]	Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode	100 % Off Off GRAPPA	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9]	Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE	100 % Off Off GRAPPA 2	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE	100 % Off Off GRAPPA	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9]	Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE	100 % Off Off GRAPPA 2	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode	100 % Off Off GRAPPA 2 24 Separate	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr.	100 % Off Off GRAPPA 2 24 Separate Off	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize	100 % Off Off GRAPPA 2 24 Separate Off Off	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13]	Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter	100 % Off Off GRAPPA 2 24 Separate Off Off Off On	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14]	Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter	100 % Off Off GRAPPA 2 24 Separate Off Off Off On Off	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15]	Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter	100 % Off Off GRAPPA 2 24 Separate Off Off Off On	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17]	Baseline Active
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming	100 % Off Off GRAPPA 2 24 Separate Off Off Off On Off	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18]	Baseline Active Active
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming Geometry	100 % Off Off Off GRAPPA 2 24 Separate Off Off Off On Off Off	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18] Meas[18]	Baseline Active Active Active
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming	100 % Off Off GRAPPA 2 24 Separate Off Off Off On Off	Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18]	Baseline Bateline Bateline Bateline Bateline Bateline Bateline Bateline Active Active Active Active

Meas[23]	Active
Meas[24]	Active
Meas[25]	Active
Meas[26]	Active
Meas[27]	Active
Meas[28]	Active
Meas[29]	Active
Meas[30]	Active
Motion correction	Off
Spatial filter	Off

Sequence

	•	
ı	Introduction	Off
ı	Bandwidth	1890 Hz/Px
ı	Free echo spacing	Off
ı	Echo spacing	0.63 ms
ı	EDI ()	
ı	EPI factor	98
ı	RF pulse type	Normal
ı	Gradient mode	Fast
ı	Dummy Scans	3
ı	,	4
ı	Dummy Scans	·
ı	SMS Factor	3
ı	RF Clip	0
ı	VERSE Factor	1.00
ı	SMS Shift	2
I	Kernel Size	5x5
I	Compression Factor	1.00
ı		

\\USER\UserProtocols\Renzo\VASO_training_session\MB3_HAB_1.3mm_PAT2_2s50ms_FC_Phase AP TA: 1:39 PAT: 2 Voxel size: 1.5×1.5×2.0 mm Rel. SNR: 1.00 USER: cmrr_mbep2d_bold

Properties		Special sat.	None
Prio Recon	Off	Table position	Н
Before measurement	.	Table position	0 mm
After measurement		Inline Composing	Off
Load to viewer	On		3
Inline movie	Off	System	
Auto store images	On	V32	Off
Load to stamp segments	Off	A32	On
Load images to graphic	Off	Positioning mode	FIX
segments		MSMA	S - C - T
Auto open inline display	Off	Sagittal	R >> L
Start measurement without	On	Coronal	A >> P
further preparation		Transversal	F >> H
Wait for user to start	Off	Coil Combine Mode	Sum of Squares
Start measurements	single	AutoAlign	
Routine		Auto Coil Select	Default
Slice group 1		Shim mode	Standard
Slices	48	Adjust with body coil	Off
Dist. factor	0 %	Confirm freq. adjustment	Off
Position	R4.2 A21.2 F6.6	Assume Silicone	Off
Orientation	Transversal	! Ref. amplitude 1H	220.000 V
Phase enc. dir.	A >> P	Adjustment Tolerance	Auto
Rotation	0.00 deg	Adjust volume	-
Phase oversampling	0 %	Position	R4.2 A21.2 F6.6
FoV read	192 mm	Orientation	Transversal
FoV phase Slice thickness	100.0 % 2.00 mm	Rotation	0.00 deg
TR	1000 ms	R >> L	192 mm
TE TE	25.0 ms	A >> P	192 mm
Multi-band accel. factor	3	F >> H	96 mm
Filter	None	Physio	
Coil elements	A32	1st Signal/Mode	None
Contrast		BOLD	0
MTC	Off	GLM Statistics	On O"
Magn. preparation	None	Dynamic t-maps	Off
Flip angle	55 deg	Starting ignore meas	0
Fat suppr.	Fat sat.	Ignore after transition Model transition states	0 On
Averaging mode	Long term	Temp. highpass filter	On
Reconstruction	Magnitude	Threshold	4.00
Measurements	83	Paradigm size	30
Delay in TR	0 ms	Meas[1]	Baseline
Multiple series	Off	Meas[2]	Baseline
Resolution		Meas[3]	Baseline
Base resolution	128	Meas[4]	Baseline
Phase resolution	100 %	Meas[5]	Baseline
Phase partial Fourier	6/8	Meas[6]	Baseline
•	0/0	L A A F=3	Baseline
Interpolation		Meas[7]	
Interpolation	Off	Meas[8]	Baseline
PAT mode	Off GRAPPA	Meas[8] Meas[9]	Baseline
PAT mode Accel. factor PE	Off GRAPPA 2	Meas[8] Meas[9] Meas[10]	Baseline Baseline
PAT mode Accel. factor PE Ref. lines PE	Off GRAPPA 2 24	Meas[8] Meas[9] Meas[10] Meas[11]	Baseline Baseline Baseline
PAT mode Accel. factor PE	Off GRAPPA 2	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12]	Baseline Baseline Baseline Baseline
PAT mode Accel. factor PE Ref. lines PE	Off GRAPPA 2 24	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13]	Baseline Baseline Baseline Baseline Baseline
PAT mode Accel. factor PE Ref. lines PE Reference scan mode	Off GRAPPA 2 24 GRE	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr.	Off GRAPPA 2 24 GRE	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize	Off GRAPPA 2 24 GRE Off Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter	Off GRAPPA 2 24 GRE Off Off Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming	Off GRAPPA 2 24 GRE Off Off Off On Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming Geometry	Off GRAPPA 2 24 GRE Off Off Off On Off Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18] Meas[18]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming Geometry Multi-slice mode	Off GRAPPA 2 24 GRE Off Off Off Off On Off Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[17] Meas[18] Meas[19] Meas[20]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming Geometry	Off GRAPPA 2 24 GRE Off Off Off On Off Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18] Meas[18]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active Active Active Active

Meas[23]	Active
Meas[24]	Active
Meas[25]	Active
Meas[26]	Active
Meas[27]	Active
Meas[28]	Active
Meas[29]	Active
Meas[30]	Active
Motion correction	Off
Spatial filter	Off

Sequence

Sequence	
Introduction	Off
Contrasts	1
Bandwidth	1776 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	0.72 ms
EPI factor	128
Gradient mode	Fast*
RF spoiling	Off
Excite pulse duration	5000 us
Single-band images	Off
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	0.50
GRE iPAT ref. FA	12.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\UserPro	otocols\Re	enzo\VASO_training_sessior	n_VASO_FA4_V	ASO_122_template	
TA: 15:22	PAT: 3	Voxel size: 0.8×0.8×1.3 mm	Rel. SNR: 1.00	UNKNOWN:	

Properties		PAT mode Accel, factor PE	GRAPPA 3
Prio Recon	Off	Ref. lines PE	36
Before measurement		Accel. factor 3D	1
After measurement	0.5	Ref. lines 3D	24
Load to viewer	On Off	Reference scan mode	Separate
Inline movie	On	Prescan Normalize	Off
Auto store images Load to stamp segments	Off	Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments	Oli	Hamming	Off
Auto open inline display	Off	Hamming	Oll
Start measurement without	On	Geometry	
further preparation		Multi-slice mode	Interleaved
Wait for user to start	Off	Series	Ascending
Start measurements	single	Special sat.	Parallel F
1	og.o	Gap	25.0 mm
Routine		Thickness	100 mm
Slab group 1	4		
Slabs	1	Table position	Н
Dist. factor Position	50 %	Table position	0 mm
Orientation	R41.9 A8.1 H9.4	Inline Composing	Off
Phase enc. dir.	T > S39.8 > C-12.8 P >> A	System	
Rotation	180.00 deg	V32	Off
Phase oversampling	0 %	A32	On
Slice oversampling	9.1 %		
Slice oversampling Slices per slab	22	Positioning mode	FIX
FoV read	130.0 mm	MSMA	S-C-T
FoV phase	100.0 %	Sagittal	R >> L
Slice thickness	1.28 mm	Coronal	A >> P
TR	2287.30 ms	Transversal	F >> H
TE TE	32 ms	Save uncombined	Off
Averages	1	Coil Combine Mode	Sum of Squares
Concatenations	1	AutoAlign	D-f!t
Filter	None	Auto Coil Select	Default
Coil elements	A32	Shim mode	Standard
1		Adjust with body coil	Off
Contrast	00.017/400	Confirm freq. adjustment	Off
Perfusion mode	SS-SI VASO	Assume Silicone	Off
TI2	700 ms	! Ref. amplitude 1H	220.000 V
TI1	50 ms	Adjustment Tolerance	Auto
TI1s	50 ms	Adjust volume	
Flip angle Fat suppr.	4 deg Fat sat.	! Position	R36.6 A8.0 H7.8
Fat sat, mode	Weak	! Orientation	T > C-9.1 > S0.9
- at Sat. Houe	vveak	! Rotation	0.08 deg
Averaging mode	Long term	! R >> L	86 mm
Reconstruction	Magnitude	! A >> P	136 mm
Measurements	403	! F >> H	58 mm
Delay in TR	0 ms	Physio	
Multiple series	Off	1st Signal/Mode	None
Perfusion mode	PICORE Q2T	1	
Inversion time 1	50 ms	BOLD Motion correction	O#
Saturation stop time	50 ms	Motion correction	Off
Inversion time 2	700.0 ms	Spatial filter	Off
Flow limit	100 cm/s	Sequence	
į.		Introduction	On
Resolution		Dimension	3D
Base resolution	162	Reordering	Linear
Phase resolution	400.07	_	à .
0.0	100 %	Contrasts	1
Slice resolution	100 %	Contrasts Bandwidth	1 1144 Hz/Px
Phase partial Fourier	100 % Off		
Phase partial Fourier Slice partial Fourier	100 % Off Off	Bandwidth	1144 Hz/Px
Phase partial Fourier	100 % Off	Bandwidth Free echo spacing	1144 Hz/Px Off

RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slab-sel. On
Ampl BWDTH ph.skip 4 Robert (the one) use Ernst angle Maxwell Correction log physio files FFT scale dummy prepscan time z shim RF duration RF BWTP Renzo: Delta TI EFFECTIVE TR PatPartitions EPI phase correction PAT refscan mode FlashRef BaseRes FlashRef BW FlashRef TE FlashRef FA use CAIPI	150 150 3.1kHz 30 Off Off Off Off 2.00 3 s 0.00 mT/m*ms 1900 us 25.0 63 ms 54895 ms 24 local Flash 162 100 Hz/px 10000 us 5 deg Off

\\USER\UserProtocols\Renzo\VASO_training_session\small_FOV_3DVASO_ONE_Hemisphere_GRAPPA2_P
TA: 0:19 PAT: 2 Voxel size: 0.7×0.7×1.8 mm Rel. SNR: 1.00 USER: VASO_109

		PAT mode	GRAPPA
Properties	0"	Accel. factor PE	2
Prio Recon	Off	Ref. lines PE	24
Before measurement		Accel. factor 3D	1
After measurement	0	Ref. lines 3D	8
Load to viewer	On O#	Reference scan mode	Separate
Inline movie	Off	December Normalina	⁴
Auto store images	On Off	Prescan Normalize	Off
Load to stamp segments	Off	Raw filter	Off Off
Load images to graphic segments	Oli	Elliptical filter	Off
Auto open inline display	Off	Hamming	Oil
Start measurement without	On	Geometry	
further preparation	Oli	Multi-slice mode	Interleaved
Wait for user to start	Off	Series	Ascending
Start measurements	single	0	Described F
1	Sirigle	Special sat.	Parallel F
Routine		Gap	25.0 mm 100 mm
Slab group 1		Thickness	100 mm
Slabs	1	Table position	Н
Dist. factor	50 %	Table position	0 mm
Position	L29.8 P1.9 H31.0	Inline Composing	Off
Orientation	T > S-22.8 > C-5.5		
Phase enc. dir.	R >> L	System	0"
Rotation	120.00 deg	V32	Off
Phase oversampling	0 %	A32	On
Slice oversampling	0.0 %	Positioning mode	FIX
Slices per slab	12	MSMA	S - C - T
FoV read	32.8 mm	Sagittal	R >> L
FoV phase	300.0 %	Coronal	A >> P
Slice thickness	1.80 mm	Transversal	F >> H
TR	1697.80 ms	Save uncombined	Off
TE	24 ms	Coil Combine Mode	Sum of Squares
Averages	1	AutoAlign	
Concatenations	1	Auto Coil Select	Default
Filter	None		
Coil elements	A32	Shim mode	Standard
Contrast		Adjust with body coil	Off
Perfusion mode	Picore Q2TIPS	Confirm freq. adjustment	Off
TI2	800 ms	Assume Silicone	Off
TI1	50 ms	! Ref. amplitude 1H	220.000 V
TI1s	50 ms	Adjustment Tolerance	Auto
Flip angle	27 deg	Adjust volume	=
Fat suppr.	Fat sat.	! Position	L24.9 P2.2 H31.4
Fat sat. mode		! Orientation	S > T0.7
	Strong	! Rotation	-0.26 deg
Averaging mode	Long term	!F>>H	60 mm
Reconstruction	Magnitude	! A >> P	72 mm
Measurements	11	! R >> L	85 mm
Delay in TR	0 ms	Physio	
Multiple series	Off	1st Signal/Mode	None
Perfusion mode	PICORE Q2T	1	
Inversion time 1	50 ms	BOLD	
Saturation stop time	50 ms	Motion correction	Off
Inversion time 2		Spatial filter	Off
Flow limit	800.0 ms 100.0 cm/s	Sequence	
I LIOM IIIIIII	100.0 611//5	Introduction	On
Resolution		Dimension	3D
Base resolution	44	Reordering	Linear
Phase resolution	100 %	Contrasts	1
Slice resolution	100 %	Bandwidth	1042 Hz/Px
Phase partial Fourier	6/8	Free echo spacing	Off
Slice partial Fourier	Off	Echo spacing	1.08 ms
Interpolation	Off		
I		EPI factor	132

RF pulse type Gradient mode Excitation RF spoiling	Normal Normal Slab-sel. On
Ampl BWDTH thickness use Ernst angle Maxwell Correction log physio files FFT scale dummy prepscan time z shim RF duration RF BWTP EFFECTIVE TR PatPartitions EPI phase correction PAT refscan mode FlashRef BaseRes FlashRef BW FlashRef TE FlashRef FA use CAIPI	110 150 3.1kHz 30 Off Off Off Off 1.00 3 s 0.00 mT/m*ms 2560 us 25.0 20373 ms 12 local Flash 44 1000 Hz/px 4800 us 5 deg Off

\\USER\UserP	rotocols\F	Renzo\VASO_training_session	on\MP2RAGE_sla	ab_0.5x05x0.5_T1_POCS8
TA: 16:14	PAT: 2	Voxel size: 0.5×0.5×0.5 mm	Rel. SNR: 1.00	USER: tfl_wip900b17a

Properties		Image Filter	Off
Prio Recon	Off	Distortion Corr.	Off
Before measurement		Prescan Normalize	Off
After measurement		Raw filter	Off
Load to viewer	On	Elliptical filter	Off
Inline movie	Off		
Auto store images	On	Geometry	
Load to stamp segments	Off	Multi-slice mode	Single shot
Load images to graphic	Off	Series	Interleaved
segments			
Auto open inline display	Off	Table position	Н
Start measurement without	On	Table position	0 mm
further preparation	3 11	Inline Composing	Off
Wait for user to start	Off		
Start measurements	single	System	
Start measurements	Single	V32	Off
Routine		A32	On
Slab group 1		Positioning mode	FIX
Slabs	1	MSMA	S - C - T
Dist. factor	50 %	Sagittal	R >> L
Position	R29.7 A24.9 H37.7	Coronal	A >> P
Orientation	T > S34.7 > C0.1	Transversal	F >> H
Phase enc. dir.	A >> P	Save uncombined	Off
Rotation	0.00 deg	Coil Combine Mode	Adaptive Combine
Phase oversampling	0 %		
Slice oversampling	0.0 %	AutoAlign Auto Coil Select	
Slices per slab	72	Auto Coil Select	Default
FoV read	161 mm	Shim mode	Standard
FoV phase	100.0 %	Adjust with body coil	Off
Slice thickness	0.50 mm	Confirm freq. adjustment	Off
TR	6000 ms	Assume Silicone	Off
TE	4.13 ms	! Ref. amplitude 1H	277.000 V
		Adjustment Tolerance	Auto
Averages	1	Adjust volume	Auto
Concatenations	1	! Position	R33.3 A18.6 H34.3
Filter	None		
Coil elements	A32	! Orientation	T > C-2.3
Contrast		! Rotation	0.00 deg
Magn. preparation	Non-sel. IR	! R >> L	83 mm
TI 1	900 ms	! A >> P	152 mm
TI 2	2900 ms	! F >> H	65 mm
Flip angle 1	6 deg	Physio	
Flip angle 2	7 deg	1st Signal/Mode	None
Fat suppr.	None		
- I	None	Dark blood	Off
Water suppr. 2nd Inversion Contrast		Doop control	O#
Ziid inversion Contrast	On	Resp. control	Off
Averaging mode	Long term	Composing	
Reconstruction	Magn./Phase	Caguanas	
Measurements	3	Sequence	
Pause after meas. 1	0.0 s	Introduction	On
Pause after meas. 2	0.0 s	Dimension	3D
Multiple series	Each measurement	Elliptical scanning	Off
•		Asymmetric echo	Off
Resolution		Contrasts	1
Base resolution	320	Bandwidth	190 Hz/Px
Phase resolution	100 %	Flow comp.	No
Slice resolution	100 %	Echo spacing	8.4 ms
Phase partial Fourier	Off	DE pulso tuna	Foot
Slice partial Fourier	6/8	RF pulse type	Fast
	CDADDA	Gradient mode	Fast
PAT mode	GRAPPA	Excitation	Slab-sel.
Accel. factor PE	2	RF spoiling	On
Ref. lines PE	24	FFT Scale Factor	150 %
Accel. factor 3D	1	Morphometry Analysis	Off
Reference scan mode	Integrated	1s.prismon / maryon	-

FID MoCo Logging	Off
FID Coil Phase Corr.	Off
LIN/PAR Swap	On
Ext. INV Pulse	On
Flip Angle	1400
Phase Filter	0 px
Uniform Image	On
Head Mask on UNI	Off
T1 Map	On
Complex Div. Image	On
Denoise Weighting	150
FLAWS	Off

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Properties		Distortion Corr.	Off
Prio Recon	Off	Prescan Normalize	Off
Before measurement	Oli	Raw filter	Off
After measurement		Elliptical filter	Off
Load to viewer	On	Geometry	
Inline movie	Off	Multi-slice mode	Single shot
Auto store images	On	Series	Interleaved
Load to stamp segments	Off		·····
Load images to graphic	Off	Table position	ш
segments	OII	Table position Table position	H 0 mm
Auto open inline display	Off	Inline Composing	Off
Start measurement without	On	I milite Composing	Oli
further preparation		System	
Wait for user to start	Off	V32	Off
Start measurements	single	A32	On
	Single	B 22 1 1	FIV
outine		Positioning mode	FIX
Slab group 1		MSMA Sogittal	S-C-T
Slabs	1	Sagittal	R >> L
Dist. factor	50 %	Coronal	A >> P
Position	R30.1 P0.3 H28.1	Transversal	F >> H
Orientation	T > S30.8 > C-11.5	Save uncombined	Off
Phase enc. dir.	R >> L	Coil Combine Mode	Adaptive Combine
Rotation	60.00 deg	AutoAlign	D-f!t
Phase oversampling	0 %	Auto Coil Select	Default
Slice oversampling	0.0 %	Shim mode	Standard
Slices per slab	32	Adjust with body coil	Off
FoV read	140 mm	Confirm freq. adjustment	Off
FoV phase	100.0 %	Assume Silicone	Off
Slice thickness	1.20 mm	! Ref. amplitude 1H	277.000 V
TR	6000 ms	Adjustment Tolerance	Auto
TE	4.23 ms	Adjust volume	
Averages	1	! Position	R26.7 A7.7 H20.0
Concatenations	1	! Orientation	Transversal
Filter	None	! Rotation	0.00 deg
Coil elements	A32	! R >> L	89 mm ¯
Contrast		! A >> P	64 mm
Magn. preparation	Non-sel. IR		58 mm
TI 1	900 ms	Dharia	
TI 2	2900 ms	Physio	
Flip angle 1	6 deg	1st Signal/Mode	None
Flip angle 2	7 deg	Dark blood	Off
Fat suppr.	None		
Water suppr.	None	Resp. control	Off
2nd Inversion Contrast	On	Composing	
·····			
Averaging mode	Long term	Sequence	
Reconstruction	Magn./Phase	Introduction	On
Measurements	1	Dimension	3D
Multiple series	Each measurement	Elliptical scanning	Off
esolution		Asymmetric echo	Off
Base resolution	320	Contrasts	1
Phase resolution	100 %	Bandwidth	190 Hz/Px
Slice resolution	100 %	Flow comp.	No
Phase partial Fourier	Off	Echo spacing	8.6 ms
Slice partial Fourier	6/8	RF pulse type	Fast
Once partial Fourier	U/O	Gradient mode	Fast
PAT mode	GRAPPA		Fast Slab-sel.
Accel. factor PE	2	Excitation	
Ref. lines PE	24	RF spoiling	On
Accel. factor 3D	1	FFT Scale Factor	150 %
Reference scan mode	Integrated	Morphometry Analysis	Off
		FID MoCo Logging	Off
Image Filter	Off	FID Coil Phase Corr.	Off

LIN/PAR Swap	On
Ext. INV Pulse	On
Flip Angle	1400
Phase Filter	0 px
Uniform Image	On
Head Mask on UNI	Off
T1 Map	On
Complex Div. Image	On
Denoise Weighting	150
FLAWS	Off

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Dranantias		Image Filter	Off
Properties		Distortion Corr.	Off
Prio Recon	Off	Prescan Normalize	Off
Before measurement		Normalize	Off
After measurement		B1 filter	Off
Load to viewer	On	Raw filter	Off
Inline movie	Off	Elliptical filter	Off
Auto store images	On	·	
Load to stamp segments	Off	Geometry	
Load images to graphic	Off	Multi-slice mode	Interleaved
segments		Series	Interleaved
Auto open inline display	Off	Saturation mode	Standard
Start measurement without	On	Special sat.	None
further preparation			
Wait for user to start	Off	Table position	
Start measurements	single	Table position	H
Routine		Table position	0 mm
Slab group 1		Inline Composing	Off
Slabs	1	Tim CT mode	Off
Dist. factor	20 %	System	
Position	R34.0 A20.0 H42.2	System	0"
Orientation	T > S41.5 > C2.1	V32	Off
Phase enc. dir.	R >> L	A32	On
Rotation	90.00 deg	Positioning mode	FIX
Phase oversampling	0 %	MSMA	S - C - T
Slice oversampling	0.0 %	Sagittal	R >> L
Slices per slab	80	Coronal	A >> P
FoV read	140 mm	Transversal	F >> H
FoV phase	100.0 %	Save uncombined	Off
Slice thickness	0.44 mm	Coil Combine Mode	Adaptive Combine
TR	35 ms	AutoAlign	
TE 1	8.50 ms	Auto Coil Select	Default
TE 2	23.20 ms	Auto Goil Gelect	
		Shim mode	Standard
Averages	1	Adjust with body coil	Off
Concatenations Filter	None	Confirm freq. adjustment	Off
		Assume Silicone	Off
Coil elements	A32	? Ref. amplitude 1H	0.000 V
Contrast		Adjustment Tolerance	Auto
MTC	Off	Adjust volume	
Magn. preparation	None	! Position	R31.3 A19.1 H33.8
Flip angle	10 deg	! Orientation	T > S42.1
Fat suppr.	None	! Rotation	0.07 deg
Water suppr.	None	! R >> L	106 mm
SWI	Off	! A >> P	154 mm
		······ !F>> H	47 mm
Averaging mode	Short term	I :	
Reconstruction	Magn./Phase	Physio	
Measurements	2	1st Signal/Mode	None
Pause after meas. 1	0.0 s	Segments	1
Multiple series	Each measurement	Tagging	None
Resolution		Dark blood	Off
Base resolution	320	Dark blood	OII
	100 %	Resp. control	Off
Phase resolution Slice resolution		Inline	
	100 %		0#
Phase partial Fourier	Off Off	Subtract	Off
Slice partial Fourier	Off Off	Liver registration	Off
Interpolation	Off	Std-Dev-Sag	Off
PAT mode	GRAPPA	Std-Dev-Cor	Off
Accel. factor PE	2	Std-Dev-Tra	Off
Ref. lines PE	24	Std-Dev-Time	Off
Accel. factor 3D	1	MIP-Sag	Off
יוטטטוי ומטוטו טב	•	MIP-Cor	Off
Reference scan mode	Integrated	MIP-Tra	Off

MIP-Time Save original images	Off On
Wash - In Wash - Out	Off Off
TTP	Off
PEI	Off
MIP - time	Off
MapIt	None
Contrasts	2
Sequence	
Introduction	Off
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Bandwidth 1	80 Hz/Px
Bandwidth 2	60 Hz/Px
Flow comp. 1	No
Flow comp. 2	No
Readout mode	Bipolar
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On

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TA: 27:33	PAT: 3 Voxel size: 0.4×0	.4×0.5 mm Rel. SNR: 1.00	SIEMENS: gre
Danastias		Ref. lines PE	24
Properties Properties	Off	Accel. factor 3D	1
Prio Recon Before measurement	Oii	Reference scan mode	Integrated
After measurement		Image Filter	Off
Load to viewer	On	Distortion Corr.	Off
Inline movie	Off	Prescan Normalize	Off
Auto store images	On	Normalize	Off
Load to stamp segments	Off	B1 filter	Off
Load images to graphic	Off	Raw filter	Off
segments		Elliptical filter	Off
Auto open inline display	Off	Geometry	
Start measurement without	On	Multi-slice mode	Interleaved
further preparation Wait for user to start	Off	Series	Interleaved
Start measurements	single	Saturation mode	Standard
1	Singio	Special sat.	None
Routine		——	110116
Slab group 1	4	Table position	Н
Slabs Dist. factor	1 20 %	Table position	0 mm
Position	R35.5 A20.4 H30.1	Inline Composing	Off
Orientation	T > S33.5		
Phase enc. dir.	A >> P	Tim CT mode	Off
Rotation	0.00 deg	System	
Phase oversampling	0 %	V32	Off
Slice oversampling	0.0 %	A32	On
Slices per slab	64	Positioning mode	FIX
FoV read	140 mm	MSMA	S - C - T
FoV phase	100.0 %	Sagittal	R >> L
Slice thickness	0.54 mm	Coronal	A >> P
TR TE 1	35 ms 8.50 ms	Transversal	F >> H
TE 2	23.20 ms	Save uncombined	Off
Averages	1	Coil Combine Mode	Adaptive Combine
Concatenations	1	AutoAlign	 D ()
Filter	None	Auto Coil Select	Default
Coil elements	A32	Shim mode	Standard
Contrast		Adjust with body coil	Off
MTC	Off	Confirm freq. adjustment	Off
Magn. preparation	None	Assume Silicone	Off
Flip angle	10 deg	? Ref. amplitude 1H	0.000 V
Fat suppr.	None	Adjustment Tolerance	Auto
Water suppr.	None	Adjust volume ! Position	R35.7 A19.6 H33.3
SWI	Off	! Position	T > S35.0
Averaging mode	Short term	! Rotation	0.07 deg
Reconstruction	Magn./Phase	! R >> L	92 mm
Measurements	6	! A >> P	168 mm
Pause after meas. 1	0.0 s	! F >> H	54 mm
Pause after meas. 2	0.0 s	I	
Pause after meas. 3	0.0 s	Physio	None
Pause after meas. 4	0.0 s	1st Signal/Mode Segments	None 1
Pause after meas. 5	0.0 s	Segments	I
Multiple series	Each measurement	Tagging	None
Resolution		Dark blood	Off
	000		

FoV phase Slice thickness TR TE 1 TE 2 Averages Concatenations Filter	100.0 % 0.54 mm 35 ms 8.50 ms 23.20 ms 1	Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select	R >> L A >> P F >> H Off Adaptive Combine Default
Coil elements	None A32	Shim mode	Standard
Contrast MTC Magn. preparation Flip angle Fat suppr. Water suppr. SWI	Off None 10 deg None None Off	Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H Adjustment Tolerance Adjust volume ! Position ! Orientation	Off Off Off 0.000 V Auto R35.7 A19.6 H33.3 T > S35.0
Averaging mode Reconstruction Measurements Pause after meas. 1 Pause after meas. 2 Pause after meas. 3 Pause after meas. 4 Pause after meas. 5	Short term Magn./Phase 6 0.0 s 0.0 s 0.0 s 0.0 s 0.0 s	! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode Segments	0.07 deg 92 mm 168 mm 54 mm None
Multiple series	Each measurement	Tagging Dark blood	None Off
Resolution Base resolution Phase resolution Slice resolution Phase partial Fourier	320 100 % 100 % Off	Resp. control Inline Subtract	Off
Slice partial Fourier Interpolation	Off Off	Liver registration Std-Dev-Sag Std-Dev-Cor	Off Off Off
PAT mode Accel. factor PE	GRAPPA 3	Std-Dev-Tra Std-Dev-Time	Off Off
		23/+	

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
MapIt	None
Contrasts	2

Sequence

Ocquerioc	
Introduction	Off
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Bandwidth 1	80 Hz/Px
Bandwidth 2	60 Hz/Px
Flow comp. 1	No
Flow comp. 2	No
Readout mode	Bipolar
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On

\\USER\UserProtocols\Renzo\VASO_training_session\------ DLPFC ------

TA: 1:05	PAT: Off Voxel size: 1.0	x1.0x5.0 mm Rel. SNR: 1.00	SIEMENS: tfl
Properties		Interpolation	Off
Prio Recon	Off	PAT mode	None
Before measurement			
After measurement		Image Filter	Off
Load to viewer	On	Distortion Corr.	Off
Inline movie	Off	Prescan Normalize	Off
Auto store images	On	Normalize	Off
Load to stamp segments	Off	B1 filter	Off
Load images to graphic	Off	Raw filter	Off
segments		Elliptical filter	Off
Auto open inline display	Off	Geometry	
Start measurement without	Off	Multi-slice mode	Sequential
further preparation		Series	Ascending
Wait for user to start	Off		
Start measurements	single	Table position	Н
1 - D. <i>e</i>	3	Table position	0 mm
Routine		Inline Composing	Off
Slice group 1		I lilline Composing	On
Slices	9	System	
Dist. factor	200 %	V32	Off
Position	R7.2 A19.0 F6.3	A32	On
Orientation	Sagittal	Dopitioning mode	DEE
Phase enc. dir.	A >> P	Positioning mode MSMA	REF S - C - T
Rotation	0.00 deg		
Slice group 2	_	Sagittal	R >> L
Slices	5	Coronal	A >> P
Dist. factor	80 %	Transversal	F >> H
Position	R8.2 A20.7 H10.1	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	
Rotation	0.00 deg	Auto Coil Select	Default
Slice group 3		Shim mode	Tune up
Slices	7	Adjust with body coil	Off
Dist. factor	200 %	Confirm freq. adjustment	Off
Position	R8.2 A46.4 F8.3	Assume Silicone	Off
Orientation	Coronal	! Ref. amplitude 1H	220.000 V
Phase enc. dir.	R >> L	Adjustment Tolerance	Auto
Rotation	0.00 deg	Adjust volume	Auto
Phase oversampling	0 %	Position	Isocenter
FoV read	200 mm		
FoV phase	100.0 %	Orientation	Transversal
Slice thickness	5.0 mm	Rotation	0.00 deg
TR	3000 ms	R >> L A >> P	350 mm
TE	3.17 ms		263 mm
Averages	1	F >> H	350 mm
Concatenations	21	Physio	
Filter	None	1st Signal/Mode	None
Coil elements	A32		
Contrast		Dark blood	Off
TD	0 ms	Resp. control	Off
	0 ms	'	
Magn. preparation	Slice-sel. IR	Inline	~~
TI Sin angle	1100 ms	Subtract	Off
Flip angle	6 deg	Std-Dev-Sag	Off
Fat suppr.	None	Std-Dev-Cor	Off
Water suppr.	None	Std-Dev-Tra	Off
Averaging mode	Long term	Std-Dev-Time	Off
Reconstruction	Magnitude	MIP-Sag	Off
Measurements	1	MIP-Cor	Off
Multiple series	Each measurement	MIP-Tra	Off
· ·	Lacii ilicasulcilicili	MIP-Time	Off
Resolution		Save original images	On
Base resolution	192		
Phase resolution	100 %	Sequence	
Phase partial Fourier	Off		
•		25/+	

Introduction Dimension Asymmetric echo Bandwidth Flow comp. Echo spacing	On 2D Off 240 Hz/Px No 6.4 ms
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

\\USER\UserProtocols\Renzo\VASO_training_session\anat_Localizer DLPFC
TA: 1:05 PAT: Off Voxel size: 1.0×1.0×5.0 mm Rel. SNR: 1.00 SIEMENS: tfl

Price Recon Defended Price Recon Price Reconstruction Pr	Properties		Interpolation	Off
Before measurement		Off	PAT mode	None
Auto stree mages Or	Before measurement		land an Ellina	0#
List of Verwith Continue	After measurement			_
Montailize Off Street Off				
Audit store images Off Continue Cont	Inline movie	Off		
Load unages to graphic Off Segments Auto open inline display Off Sint measurement without further preparation Wait for user to start Off Sint measurements Single Table position H Table position H Table position H Table position H Table position Table position Off Table position Table position Table position Off Ta		_		
Case mages to graphic segments Auto open inline displays Siran measurement without Off Geometry				
Segments Segments		Off		
Start measurement without further preparation Walf for user to start Off Start measurements Off Table position O mm Inline Composing Off Of		0"	· ·	O.I.
Multifular preparation Walt for user to start Off Start measurements single Table position H Table position Off O				
Wait for user to start Off Start measurements Start measurements Single Table position H Table position Off Of		Oli		
Start measurements		Off	Series	Ascending
Routine				
Slices group 1 Slices group 2 System System	ı	Single		
Silices				
Dist. factor			Inline Composing	Oli
Position			System	
Orientation Sagittal Phase enc. dir. A >> P Positioning mode REF Rotation O.00 deg Slice group 2 Slice group 2 Slice group 2 Slice group 3 Transversal F >> H Orientation Orientati			V32	Off
Phase enc. dir. A >> P Rotation O.00 deg			A32	On
Rotation Slice group 2 Slices S S Coronal R S Co		•	Positioning mode	RFF
Slice group 2 Slices 5				
Silices 5		0.00 deg		
Dist. factor		5		
Position				F >> H
Orientation Transversal Coil Combine Mode AutoAlign Adaptive Combine AutoAlign Phase enc. dir. A >> P AutoAlign ————————————————————————————————————			Save uncombined	Off
Rotation 0.00 deg Select Default	Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Silices group 3	Phase enc. dir.	A >> P	AutoAlign	
Slice group 3	Rotation	0.00 deg		Default
Silices	Slice group 3	-		Tune un
Dist. lattor	Slices	7		•
Position				-
Orientation Coronal Phase enc. dir. R >> L Rotation 0.00 deg Phase oversampling 0 % FoV read 200 mm FoV phase 100.0 % Slice thickness 5.0 mm TR 3000 ms TR 3000 ms TE 3.17 ms Averages 1 Concatenations 21 Filter None Coil elements A32 TD 0 ms Magn, preparation Slice-sel. IR TI 1100 ms Filts suppr. None Mater suppr. None Water suppr. None Averaging mode Long term Reconstruction Magnitude Measurements 1 Multiple series Each measurement Multiple series Each measurement Multiple series of price Each measurement Phase resolution 100 % Phase partial Fourier Off				
Phase eversampling Phase oversampling Phase oversampling FoV read FoV phase Slice thickness Slice thickness Slice thickness TR 3000 ms TR TE 3.17 ms Averages 1 Concatenations Filip angle Fat suppr. Water suppr. Water suppr. Water suppr. None Water suppr. Averaging mode Reconstruction Magnitude Measurements Multiple series Magnitude Measurements Magnitude Measurements Multiple series Magnitude Measurement Milp-Tra Off Save original images On Magnitude Milp-Time Off Save original images On				
Rotation D.00 deg Phase oversampling Phase oversampling FoV read 200 mm Position Isocenter Position Transversal Rotation D.00 deg Roy Position Transversal Rotation D.00 deg Roy Position D.00 deg Roy Position Rotation D.00 deg Roy Position D.00 deg				
Phase oversampling				
FoV phase			Position	Isocenter
Slice thickness 5.0 mm R			Orientation	
TR 3000 ms A >> P 263 mm TE 3.17 ms F >> H 350 mm Averages 1 Physio Filter None 1st Signal/Mode None Coil elements A32 Dark blood Off Contrast Resp. control Off TD 0 ms Inline TI 1100 ms Subtract Off Flip angle 6 deg Std-Dev-Sag Off Fat suppr. None Std-Dev-Cor Off Water suppr. None Std-Dev-Tra Off Averaging mode Long term Std-Dev-Time Off Reconstruction Magnitude MIP-Sag Off Mulp-Sag Off MIP-Tra Off Mulliple series Each measurement MIP-Time Off Resolution 192 Save original images On Phase partial Fourier Off Sequence			Rotation	0.00 deg
TE				
Averages				
Concatenations Filter None Coil elements A32 TD Oms Magn. preparation Flip angle Fat suppr. Water suppr. None Water suppr. Averaging mode Reconstruction Resonstruction Magnitude Measurements Multiple series Resolution Resonstruction Resolution Phase resolution Phase partial Fourier Physio Ist Signal/Mode None Mesp. control Off Resp. control Off Mulhine Subtract Subtract Off Std-Dev-Sag Off Std-Dev-Sag Off MIP-Sag Off MIP-Sag Off MIP-Sag Off MIP-Tra Off MIP-Tra Off MIP-Tra Off MIP-Tra Off Save original images On Sequence			F >> H	350 mm
Filter None Coil elements A32 Contrast TD 0 ms Magn. preparation Slice-sel. IR TI 1100 ms Filp angle 6 deg Fat suppr. None Water suppr. None Averaging mode Long term Reconstruction Magnitude Resourcements 1 Multiple series Each measurement Resolution Base resolution Phase partial Fourier None A32 Dark blood Off Resp. control Off Resp. control Off Subtract Stubract Off Std-Dev-Sag Off Std-Dev-Sag Off Std-Dev-Tra Off MIP-Sag Off MIP-Cor MIP-Tra MIP-Tra Off MIP-Tra Off Save original images On Sequence			Physio	
Coil elements A32 Contrast TD 0 ms Magn. preparation Slice-sel. IR TI 1100 ms Flip angle 6 deg Fat suppr. None Water suppr. None Averaging mode Long term Reconstruction Magnitude Measurements 1 Multiple series Each measurement Resp. control Off Resp. control Off Subtract Off Std-Dev-Sag Off Std-Dev-Cor Off Std-Dev-Tra Off MIP-Sag Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off MIP-Tra Off MIP-Tra Off Save original images On Sequence				None
Contrast TD 0 ms Magn. preparation Slice-sel. IR TI 1100 ms Flip angle 6 deg Fat suppr. None Water suppr. None Averaging mode Reconstruction Magnitude Measurements Multiple series Each measurement Magnitude Phase resolution Phase partial Fourier Proceedings of ms Slice-sel. IR Inline Subtract Off Std-Dev-Sag Off Std-Dev-Cor Off Std-Dev-Tra Off MIP-Sag Off MIP-Cor MIP-Tra Off MIP-Tra Off Save original images On Sequence	Coil elements			O#
TD 0 ms Magn. preparation Slice-sel. IR TI 1100 ms Flip angle 6 deg Fat suppr. None Averaging mode Reconstruction Measurements Multiple series Resolution Base resolution Phase partial Fourier Pilo angle Sice-sel. IR Inline Subtract Std-Dev-Sag Off Std-Dev-Cor Std-Dev-Tra Off Std-Dev-Tra Off MIP-Sag Off MIP-Sag Off MIP-Tra Off MIP-Tra Off Save original images On Sequence	Contract		Dark blood	OTI
Magn. preparation TI TI T100 ms Flip angle Fat suppr. Water suppr. None Averaging mode Reconstruction Magnitude Measurements Multiple series Resolution Base resolution Phase partial Fourier Mind Mignition Slice-sel. IR Subtract Std-Dev-Sag Off Std-Dev-Cor Off Std-Dev-Tra Off MIP-Sag Off MIP-Sag Off MIP-Tra Off MIP-Tra Off Save original images On Sequence		0 ms	Resp. control	Off
TI 1100 ms Subtract Off Flip angle 6 deg Std-Dev-Sag Off Fat suppr. None Std-Dev-Cor Off Water suppr. None Std-Dev-Tra Off Averaging mode Long term Reconstruction Magnitude Measurements 1 Multiple series Each measurement Each measurement MIP-Tra Off Resolution 192 Phase resolution 100 % Sequence Subtract Off Std-Dev-Sag Off Mtl-Dev-Tra Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off Save original images On Sequence			•	
Flip angle 6 deg Std-Dev-Sag Off Fat suppr. None Std-Dev-Cor Off Water suppr. None Std-Dev-Tra Off Averaging mode Long term Reconstruction Magnitude Measurements 1 Multiple series Each measurement MIP-Cor Off Resolution 192 Phase resolution 100 % Sequence Std-Dev-Sag Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off Save original images On				Off
Fat suppr. None Water suppr. None Averaging mode Reconstruction Magnitude Measurements Multiple series Resolution Base resolution Phase partial Fourier None Std-Dev-Cor Std-Dev-Time Off MIP-Sag MIP-Sag MIP-Cor MIP-Tra Off MIP-Tra Off MIP-Time Save original images On Sequence Std-Dev-Tor Std-Dev-Time Std-Dev-Time Std-Dev-Time Off MIP-Sag Off MIP-Tra Off MIP-Tra Off Save original images On	1			
Water suppr. None Averaging mode Long term Reconstruction Magnitude Measurements 1 Multiple series Each measurement Resolution Base resolution 192 Phase partial Fourier None Std-Dev-Tra Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off Save original images Sequence Std-Dev-Time Std-Dev-Time Std-Dev-Time Std-Dev-Time Std-Dev-Time Std-Dev-Time Std-Dev-Time MIP-Sag Off MIP-Tra Off MIP-Tra Off Save original images On Sequence		•		
Averaging mode Long term Reconstruction Magnitude Measurements 1 Multiple series Each measurement Resolution Base resolution 192 Phase partial Fourier Averaging mode Long term Magnitude MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off Save original images On Sequence Std-Dev-Time Off MIP-Sag Off MIP-Tra Off MIP-Tra Off Save original images On		None		
Reconstruction Magnitude MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Time Off Save original images On Base resolution 192 Phase partial Fourier Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off Save original images On Sequence		Long torre		
Measurements 1 Multiple series Each measurement MIP-Tra MiP-Tra MiP-Time Off MIP-Time Off Save original images On Phase resolution 100 % Phase partial Fourier Off				
Multiple series Resolution Base resolution Phase resolution Phase partial Fourier MIP-Tra MIP-Tra Off MIP-Time Save original images On Sequence		iviagnitude 4		
Resolution Base resolution Phase resolution Phase partial Fourier MIP-Time Save original images On Sequence Sequence		Fach measurement		
Base resolution 192 Phase resolution 100 % Phase partial Fourier Off Sequence	1	Lacii illeasuleilleill	MIP-Time	
Phase resolution 100 % Sequence Phase partial Fourier Off			Save original images	On
Phase partial Fourier Off				
			Sequence	
	Phase partial Fourier	Off	27/+	

Introduction Dimension Asymmetric echo Bandwidth Flow comp. Echo spacing	On 2D Off 240 Hz/Px No 6.4 ms
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

\\USER\UserProtocols\Renzo\VASO_training_session\epi_sms3_ip2_2mm_10_20GLM
TA: 6:18 PAT: 2 Voxel size: 2.0×2.0×2.0 mm Rel. SNR: 1.00 USER: ep2d_bold_sms_mgh_v22

Properties		Special sat.	None
Prio Recon	Off	Table position	Н
Before measurement		Table position	0 mm
After measurement		Inline Composing	Off
Load to viewer	On		
Inline movie	Off	System	
Auto store images	On	V32	Off
Load to stamp segments	Off	A32	On
Load images to graphic	Off	Positioning mode	FIX
segments		MSMA	S - C - T
Auto open inline display	Off	Sagittal	R >> L
Start measurement without	On	Coronal	A >> P
further preparation		Transversal	F>> H
Wait for user to start	Off	Coil Combine Mode	Sum of Squares
Start measurements	single	AutoAlign	
ı	Sirigio	Auto Coil Select	Default
Routine		Auto Coil Select	Delault
Slice group 1		Shim mode	Standard
Slices	57	Adjust with body coil	Off
Dist. factor	0 %	Confirm freq. adjustment	Off
Position	L0.0 A19.0 H6.2	Assume Silicone	Off
Orientation	Transversal	! Ref. amplitude 1H	220.000 V
Phase enc. dir.	A >> P	Adjustment Tolerance	Auto
Rotation	0.00 deg	Adjust volume	
Phase oversampling	0 %	! Position	R6.3 A29.3 H24.5
FoV read	195 mm	! Orientation	T > C3.0
FoV phase	100.0 %	! Rotation	0.00 deg
Slice thickness	2.0 mm	! R >> L	120 mm
TR	1000 ms	! A >> P	162 mm
TE	23 ms	! F >> H	50 mm
Averages	1	1 :1 >>11	30 11111
Concatenations	1	Physio	
Filter	None	1st Signal/Mode	None
Coil elements	A32	1	
1	7102	BOLD	
Contrast		GLM Statistics	On
MTC	Off	Dynamic t-maps	Off
Flip angle	65 deg	Starting ignore meas	0
Fat suppr.	Fat sat.	Ignore after transition	1
Averaging mode	Long torm	Model transition states	Off
Averaging mode	Long term	Temp. highpass filter	On
Reconstruction	Magnitude 360	Threshold	4.00
Measurements		Paradigm size	20
Delay in TR	0 ms	Meas[1]	Baseline
Multiple series	Off	Meas[2]	Baseline
Resolution		Meas[3]	Baseline
Base resolution	98	Meas[4]	Baseline
Phase resolution	100 %	Meas[5]	Baseline
Phase partial Fourier	Off	Meas[6]	Baseline
Interpolation			Baseline
		Meas[7]	
	Off	Meas[8]	Baseline
PAT mode	Off GRAPPA	Meas[8] Meas[9]	Baseline Baseline
PAT mode Accel. factor PE	Off GRAPPA 2	Meas[8]	Baseline
PAT mode Accel. factor PE Ref. lines PE	Off GRAPPA	Meas[8] Meas[9]	Baseline Baseline Active Active
PAT mode Accel. factor PE	Off GRAPPA 2	Meas[8] Meas[9] Meas[10]	Baseline Baseline Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode	Off GRAPPA 2 24 Separate	Meas[8] Meas[9] Meas[10] Meas[11]	Baseline Baseline Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr.	Off GRAPPA 2 24 Separate Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12]	Baseline Baseline Active Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize	Off GRAPPA 2 24 Separate Off Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13]	Baseline Baseline Active Active Active Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter	Off GRAPPA 2 24 Separate Off Off Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14]	Baseline Baseline Active Active Active Active Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter	Off GRAPPA 2 24 Separate Off Off Off On Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15]	Baseline Baseline Active Active Active Active Active Active Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter	Off GRAPPA 2 24 Separate Off Off Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17]	Baseline Baseline Active Active Active Active Active Active Active Active Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming	Off GRAPPA 2 24 Separate Off Off Off On Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18]	Baseline Baseline Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming Geometry	Off GRAPPA 2 24 Separate Off Off Off On Off Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18] Meas[18]	Baseline Baseline Active
PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming	Off GRAPPA 2 24 Separate Off Off Off On Off	Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18]	Baseline Baseline Active

Sequence

Introduction	Off
Bandwidth	1890 Hz/Px
Free echo spacing	Off
Echo spacing	0.63 ms
EPI factor	98
RF pulse type	Normal
Gradient mode	Fast
Dummy Scans	3
Dummy Scans	4
SMS Factor	3
RF Clip	0
VERSE Factor	1.00
SMS Shift	2
Kernel Size	5x5
Compression Factor	1.00

 $\verb|\USER\USer|| Protocols\Renzo\VASO_training_session\\| FA4_VASO_122_130mmFOV_GRAPPA_optillare | Particular | Particular$

TA: 13:52	PAT: 3	Voxel size: 0.8×0.8×1.0 mm	Rel. SNR: 1.00	UNKNOWN:

Dranartias		PAT mode	GRAPPA
Properties Prio Recon	Off	Accel. factor PE	3
Before measurement	Оп	Ref. lines PE	48
After measurement		Accel. factor 3D	1
Load to viewer	On	Ref. lines 3D	24
Inline movie	Off	Reference scan mode	Separate
Auto store images	On	Prescan Normalize	Off
Load to stamp segments	Off	Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments	Oll	Hamming	Off
Auto open inline display	Off	Hamming	Oli
Start measurement without	On	Geometry	
further preparation		Multi-slice mode	Interleaved
Wait for user to start	Off	Series	Ascending
Start measurements	single	Special sat.	Parallel R
1	Sirigio	Gap	25.0 mm
Routine		Thickness	100 mm
Slab group 1 Slabs	1		
Dist. factor	1 50 %	Table position	H
Position		Table position	0 mm
	L37.2 A26.3 F2.8	Inline Composing	Off
Orientation	Sagittal	System	
Phase enc. dir.	A >> P	V32	Off
Rotation	0.00 deg	A32	On
Phase oversampling	18 %		
Slice oversampling	9.1 %	Positioning mode	FIX
Slices per slab	22	MSMA	S - C - T
FoV read	130.0 mm	Sagittal	R >> L
FoV phase	98.8 %	Coronal	A >> P
Slice thickness	1.00 mm	Transversal	F >> H
TR	2514.00 ms	Save uncombined	Off
TE	27 ms	Coil Combine Mode	Sum of Squares
Averages	1	AutoAlign	
Concatenations	1	Auto Coil Select	Default
Filter	None	Oh: d-	Ot d d
Coil elements	A32	Shim mode	Standard
Contrast		Adjust with body coil	Off
Perfusion mode	SS-SI VASO	Confirm freq. adjustment	Off Off
TI2	700 ms	Assume Silicone	
TI1	50 ms	! Ref. amplitude 1H	220.000 V
TI1s	50 ms	Adjustment Tolerance	Auto
Flip angle	4 deg	Adjust volume	
	4 ueu		1 20 4 A20 C FF 0
	•	! Position	L28.4 A29.6 F5.0
Fat suppr.	Fat sat. Weak	! Position ! Orientation	T > C-0.1
Fat suppr. Fat sat. mode	Fat sat. Weak	! Position ! Orientation ! Rotation	T > C-0.1 0.00 deg
Fat suppr. Fat sat. mode Averaging mode	Fat sat. Weak Long term	Position Orientation Rotation R >> L	T > C-0.1 0.00 deg 68 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction	Fat sat. Weak Long term Magnitude	! Position ! Orientation ! Rotation ! R >> L ! A >> P	T > C-0.1 0.00 deg 68 mm 127 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements	Fat sat. Weak Long term Magnitude 331	Position Orientation Rotation R >> L	T > C-0.1 0.00 deg 68 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR	Fat sat. Weak Long term Magnitude 331 0 ms	! Position ! Orientation ! Rotation ! R >> L ! A >> P	T > C-0.1 0.00 deg 68 mm 127 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements	Fat sat. Weak Long term Magnitude 331	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H	T > C-0.1 0.00 deg 68 mm 127 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series	Fat sat. Weak Long term Magnitude 331 0 ms Off	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time Inversion time 2	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms 700.0 ms	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time Inversion time 2 Flow limit	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction Spatial filter	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time Inversion time 2 Flow limit Resolution	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms 700.0 ms 100 cm/s	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction Spatial filter Sequence	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm None
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time Inversion time 2 Flow limit	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms 700.0 ms 100 cm/s	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction Spatial filter Sequence Introduction Dimension	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm None Off Off
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time Inversion time 2 Flow limit Resolution Base resolution Phase resolution	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms 700.0 ms 100 cm/s	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction Spatial filter Sequence Introduction	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm None Off Off Off
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time Inversion time 2 Flow limit Resolution Base resolution Phase resolution Slice resolution	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms 700.0 ms 100 cm/s	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction Spatial filter Sequence Introduction Dimension Reordering	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm None Off Off Off Integral 1
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time Inversion time 2 Flow limit Resolution Base resolution Phase resolution Slice resolution Phase partial Fourier	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms 700.0 ms 100 cm/s	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction Spatial filter Sequence Introduction Dimension Reordering Contrasts Bandwidth	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm None Off Off Off Linear
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time Inversion time 2 Flow limit Resolution Base resolution Phase resolution Slice resolution Phase partial Fourier Slice partial Fourier	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms 700.0 ms 100 cm/s	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction Spatial filter Sequence Introduction Dimension Reordering Contrasts Bandwidth Free echo spacing	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm None Off Off Off Off On 3D Linear 1 908 Hz/Px Off
Fat suppr. Fat sat. mode Averaging mode Reconstruction Measurements Delay in TR Multiple series Perfusion mode Inversion time 1 Saturation stop time Inversion time 2 Flow limit Resolution Base resolution Phase resolution Slice resolution Phase partial Fourier	Fat sat. Weak Long term Magnitude 331 0 ms Off PICORE Q2T 50 ms 50 ms 700.0 ms 100 cm/s	! Position ! Orientation ! Rotation ! R >> L ! A >> P ! F >> H Physio 1st Signal/Mode BOLD Motion correction Spatial filter Sequence Introduction Dimension Reordering Contrasts Bandwidth	T > C-0.1 0.00 deg 68 mm 127 mm 107 mm None Off Off Off Off On 3D Linear 1 908 Hz/Px

Ampl 180 BWDTH 150 3.1kHz ph.skip 4 Robert (the one) 30 use Ernst angle Off Maxwell Correction Off log physio files Off FFT scale 3.00 dummy prepscan time 3 s z shim 0.00 mT/m*ms RF duration 2200 us RF BWTP 25.0 Renzo: Delta TI 73 ms EFFECTIVE TR 60336 ms PatPartitions 24 EPI phase correction local PAT refscan mode Flash FlashRef BaseRes 172 FlashRef BaseRes 172 FlashRef TE 10000 us FlashRef FA 5 deg use CAIPI Off	RF pulse type Gradient mode Excitation RF spoiling	Normal Normal Slab-sel. On
	BWDTH ph.skip 4 Robert (the one) use Ernst angle Maxwell Correction log physio files FFT scale dummy prepscan time z shim RF duration RF BWTP Renzo: Delta TI EFFECTIVE TR PatPartitions EPI phase correction PAT refscan mode FlashRef BaseRes FlashRef BW FlashRef TE FlashRef FA	150 3.1kHz 30 Off Off Off Off 3.00 3 s 0.00 mT/m*ms 2200 us 25.0 73 ms 60336 ms 24 local Flash 172 100 Hz/px 10000 us 5 deg

\\	USER\UserProtocols\Ren	zo\VASO_training_session\ax	kial
TA: 11:08	PAT: 3 Voxel size: 0.9x0	.9×1.1 mm Rel. SNR: 1.00	UNKNOWN:
_		I PAT mode	GRAPPA
Properties		— Accel. factor PE	3
Prio Recon	Off	Ref. lines PE	48
Before measurement		Accel, factor 3D	1
After measurement		Ref. lines 3D	24
Load to viewer	On		
Inline movie	Off	Reference scan mode	Separate
Auto store images	On	Prescan Normalize	Off
Load to stamp segments	Off	Raw filter	Off
Load images to graphic	Off	Elliptical filter	Off
segments	3. 1	Hamming	Off
Auto open inline display	Off	Hamming	Oll
Start measurement without	On	Geometry	
further preparation	OII	Multi-slice mode	Interleaved
	0#	Series	Ascending
Wait for user to start	Off		
Start measurements	single	Special sat.	Parallel F
Routine		Gap	25.0 mm
Slab group 1		— Thickness	100 mm
Slabs	1	Toble position	ш
Dist. factor	50 %	Table position	H
		Table position	0 mm
Position	R1.9 A26.7 H33.2	Inline Composing	Off
Orientation	Transversal	System	
Phase enc. dir.	P >> A	V32	Off
Rotation	180.00 deg		
Phase oversampling	0 %	A32	On
Slice oversampling	9.1 %	Positioning mode	FIX
Slices per slab	22	MSMA	S - C - T
FoV read	150.0 mm	Sagittal	R >> L
FoV phase	100.0 %	Coronal	A >> P
Slice thickness	1.10 mm		
TR	2006.00 ms	Transversal	F >> H
TE	20 ms	Save uncombined	Off
Averages	1	Coil Combine Mode	Sum of Squares
Concatenations	1	AutoAlign	
Filter	l None	Auto Coil Select	Default
	None	Shim mode	Standard
Coil elements	A32		
Contrast		Adjust with body coil	Off
Perfusion mode	SS-SI VASO	Confirm freq. adjustment	Off
TI2	700 ms	Assume Silicone	Off
TI1	50 ms	! Ref. amplitude 1H	220.000 V
TI1s	50 ms	Adjustment Tolerance	Auto
		Adjust volume	
Flip angle	4 deg	! Position	L2.4 A26.9 H26.4
Fat suppr.	Fat sat.	! Orientation	T > C0.2
Fat sat. mode	Weak	! Rotation	0.00 deg
Averaging mode	Long term	! R >> L	120 mm
Reconstruction	Magnitude	! A >> P	152 mm
Measurements	333	! F >> H	50 mm
		ı	
Delay in TR	0 ms	Physio	
Multiple series	Off	1st Signal/Mode	None
Perfusion mode	PICORE Q2T	BOLD	
Inversion time 1	50 ms		Off
Saturation stop time	50 ms	Motion correction	Off
Inversion time 2	700.0 ms	Spatial filter	Off
Flow limit	100 cm/s	Sequence	
Flow lifflit	100 cm/s	Introduction	On
Resolution		Dimension	3D
Base resolution	162		Linear
Phase resolution	100 %	Reordering	
Slice resolution	100 %	Contrasts	1
Phase partial Fourier	6/8	Bandwidth	1144 Hz/Px
Slice partial Fourier	Off	Free echo spacing	Off
	Off	Echo spacing	0.98 ms
Interpolation	OII		

EPI factor

162

RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slab-sel. On
Ampl BWDTH ph.skip 4 Robert (the one) use Ernst angle Maxwell Correction log physio files FFT scale dummy prepscan time z shim RF duration RF BWTP Renzo: Delta TI EFFECTIVE TR PatPartitions EPI phase correction PAT refscan mode FlashRef BaseRes FlashRef BW FlashRef TE FlashRef FA use CAIPI	100 150 3.1kHz 30 Off Off Off Off 1.00 3 s 0.00 mT/m*ms 2000 us 25.0 51 ms 48144 ms 24 local Flash 162 141 Hz/px 4800 us 5 deg Off

\\USER\UserPro	otocols\Re	enzo\VASO_training_sessior	n\coil_comb_acro	ss_echo_spacings_6	
TA: 8:34	PAT: 4	Voxel size: 1.1×1.1×2.0 mm	Rel. SNR: 1.00	UNKNOWN:	

Properties Prio Recon	Off	Raw filter Elliptical filter	Off Off
Before measurement		Hamming	Off
After measurement		Geometry	
Load to viewer	On	Multi-slice mode	Interleaved
Inline movie	Off	Series	Ascending
Auto store images	On	Special sat.	Parallel F
Load to stamp segments	Off	Gap	25.0 mm
Load images to graphic	Off	Thickness	100 mm
segments			
Auto open inline display	Off	Table position	Н
Start measurement without	On	Table position	0 mm
further preparation Wait for user to start	Off	Inline Composing	Off
Start measurements	single	System	
Start measurements	Sirigie	V32	Off
Routine		A32	On
Slice group 1		Docition in a mondo	FIV
Slices	12	Positioning mode	FIX S - C - T
Dist. factor	100 %	MSMA Societal	S - C - 1 R >> L
Position	L0.0 A20.1 H30.9	Sagittal Coronal	R >> L A >> P
Orientation	T > C-2.0	Transversal	A >> P F >> H
Phase enc. dir.	P >> A	Save uncombined	Off
Rotation	180.00 deg	Coil Combine Mode	Sum of Squares
Phase oversampling	0 %	AutoAlign	
FoV read	170 mm	Auto Coil Select	Default
FoV phase Slice thickness	100.0 %		
TR	2.0 mm 2093.3 ms	Shim mode	Standard
TE	30 ms	Adjust with body coil	Off
Averages	1	Confirm freq. adjustment	Off
Concatenations	1	Assume Silicone	Off
Filter	None	! Ref. amplitude 1H	220.000 V
Coil elements	A32	Adjustment Tolerance	Auto
ı	7.02	Adjust volume	D4 4 442 2 H27 0
Contrast		! Position ! Orientation	R1.4 A13.3 H27.0
Perf / VASO mode	SS-SI VASO	! Rotation	Sagittal 10.86 deg
TI2	900 ms	! F >> H	72 mm
TI1	50 ms	! A >> P	166 mm
TI1s	50 ms	! R >> L	157 mm
Flip angle	80 deg None	1	107 11111
Fat suppr.	·····	Physio	
Averaging mode	Long term	1st Signal/Mode	None
Reconstruction	Magnitude	BOLD	
Measurements	243	0	
Delay in TR	0 ms	Sequence	
Multiple series	Off	Introduction	On 1
Perfusion mode	PICORE Q2T	Contrasts	1 1516 H - 7/Dv
Inversion time 1	50 ms	Bandwidth	1516 Hz/Px Off
Saturation stop time	50 ms	Free echo spacing Echo spacing	Οπ 0.78 ms
Inversion time 2	900 ms	Leno spacing	0.76 1115
Flow limit	100.0 cm/s	EPI factor	150
December in a		RF pulse type	Normal
Resolution	450	Gradient mode	Normal
Base resolution Phase resolution	150 100 %	Ampl	90
Phase resolution Phase partial Fourier	Off	BWDTH	300 3.1kHz
Interpolation	Off	thickness	100
Interpolation	OII	Phase skip	30
PAT mode	GRAPPA	Opt. TI2	1106
Accel. factor PE	4	Volumes per TI	1
Ref. lines PE	96	SMS factor	1
Reference scan mode	Separate	log physio files	Off
Prescan Normalize	Off	altern z-shim	0 uT/m

fixed z-shim	0 uT/m
EPI phase correction	local
PAT refscan mode	FLEET
FLEET dummies	15
FLEET flip angle	30
RF pulse duration	5120 us
FFT scale	0.7
FFT Scale	0.7

\\USER\UserProtocols\Renzo\VASO_training_session\coil_combine_test_no_fatsat_PF78
TA: 0:12 PAT: 2 Voxel size: 1.3×1.3×1.5 mm Rel. SNR: 1.00 USER: VASO_109

Properties	0"	Accel. factor PE Ref. lines PE	2 24
Prio Recon	Off	Accel. factor 3D	1
Before measurement		Ref. lines 3D	12
After measurement		Reference scan mode	Separate
Load to viewer	On		·
Inline movie	Off	Prescan Normalize	Off
Auto store images	On	Raw filter	Off
Load to stamp segments	Off	Elliptical filter	Off
Load images to graphic	Off	Hamming	Off
segments		Geometry	
Auto open inline display	Off	Multi-slice mode	Interleaved
Start measurement without	On	Series	Ascending
further preparation			Ascending
Wait for user to start	Off	Special sat.	Parallel F
Start measurements	single	Gap	25.0 mm
Routine		Thickness	100 mm
Slab group 1 Slabs	4	Table position	H
Dist. factor	1 50 %	Table position	0 mm
		Inline Composing	Off
Position	L1.9 A11.4 H25.6	System	
Orientation	T > C-13.9	V32	Off
Phase enc. dir.	A >> P	A32	On
Rotation	0.00 deg	A32	
Phase oversampling	0 %	Positioning mode	FIX
Slice oversampling	0.0 %	MSMA	S - C - T
Slices per slab	12	Sagittal	R >> L
FoV read	160.0 mm	Coronal	A >> P
FoV phase	100.0 %	Transversal	F >> H
Slice thickness	1.50 mm	Save uncombined	On
TR	1708.10 ms	Coil Combine Mode	Sum of Squares
TE	39 ms	AutoAlign	
Averages	1	Auto Coil Select	Default
Concatenations	1	Auto Coli Gelect	
Filter	None	Shim mode	Standard
Coil elements	A32	Adjust with body coil	Off
1		Confirm freq. adjustment	Off
Contrast		Assume Silicone	Off
Perfusion mode	Picore Q2TIPS	! Ref. amplitude 1H	220.000 V
TI2	800 ms	Adjustment Tolerance	Auto
TI1	50 ms	Adjust volume	
TI1s	50 ms	! Position	L29.5 A18.9 H20.4
Flip angle	14 deg	! Orientation	Sagittal
Fat suppr.	None	! Rotation	0.32 deg
A		! F >> H	60 mm
Averaging mode	Long term	! A >> P	67 mm
Reconstruction	Magnitude	!R>>L	71 mm
Measurements	7	! K >> L	7 1 111111
Delay in TR	0 ms	Physio	
Multiple series	Off	1st Signal/Mode	None
Perfusion mode	PICORE Q2T	•	
Inversion time 1	50 ms	BOLD	0"
Saturation stop time	50 ms	Motion correction	Off
Inversion time 2	800.0 ms	Spatial filter	Off
Flow limit	100.0 cm/s	Sequence	
Flow IIIIII	100.0 CIII/S	Introduction	On
Resolution		Dimension	3D
Base resolution	120	Reordering	Linear
Phase resolution	100 %	Contrasts	Linear 1
Slice resolution		Bandwidth	1 2314 Hz/Px
Slice resolution	100 %		7 3 14 17 77 Y
	100 % Off		
Phase partial Fourier	Off	Free echo spacing	Off
Phase partial Fourier Slice partial Fourier	Off Off		
Phase partial Fourier	Off	Free echo spacing	Off

Gradient mode Excitation RF spoiling	Normal Slab-sel. On
Ampl BWDTH thickness	90 150 3.1kHz 30
use Ernst angle Maxwell Correction	Off Off
log physio files FFT scale	Off 2.00
dummy prepscan time z shim	3 s 0.00 mT/m*ms
RF duration RF BWTP EFFECTIVE TR	5120 us 25.0 20497 ms
PatPartitions EPI phase correction	12 local
PAT refscan mode use CAIPI	segm LIN->PAR Off