\\USER\Feinberglab\Tanja\GRASE_VASO\BP_g	grase clean '	VASO V04 pF5	8 V170
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TA: 2.5 s PAT: Off Voxel size: 0.8×0.8×0.8 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V04

Properties		Orientation —— Special sat.	Sagittal None
Prio Recon	Off		
Before measurement		Table position	Н
After measurement		Table position	0 mm
Load to viewer	On	Inline Composing	Off
Inline movie	Off	Custom	
Auto store images	On	System	
Load to stamp segments	Off	T1	On
Load images to graphic	Off	M2	On
segments		B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation	OII	Decitioning mode	DEE
Wait for user to start	Off	Positioning mode	REF
		MSMA	S-C-T
Start measurements	single	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1		— Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	R67.7 A29.0 F60.0	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	R >> L	Chine	Ctandord
		Shim mode	Standard
Rotation	90.00 deg	Adjust with body coil	Off
Phase oversampling	0 %	Confirm freq. adjustment	Off
Slice oversampling	0.0 %	Assume Silicone	Off
Slices per slab	8	! Ref. amplitude 1H	170.000 V
FoV read	130 mm	Adjustment Tolerance	Auto
FoV phase	30.9 %	Adjust volume	
Slice thickness	0.8 mm	Position	R67.7 A29.0 F60.0
TR	2500 ms	Orientation	Transversal
TE	59.78 ms	Rotation	90.00 deg
Averages	1	A >> P	130 mm
Concatenations	1	R >> L	41 mm
Filter	None	F >> H	7 mm
Coil elements	B4;M2,3;T1	1 >> 11	7 111111
_	,,-,-,-	Physio	
Contrast		1st Signal/Mode	None
Magn. preparation	Non-sel. IR	Composing	
TI	1400 ms	Composing	
Flip angle	180 deg	Sequence	
Fat suppr.	Fat sat.	Introduction	Off
Fat sat. mode	Strong	Dimension	3D
Averaging mode	Long torm	Reordering	Centric
Averaging mode Reconstruction	Long term	Contrasts	1
	Magnitude	Bandwidth	1144 Hz/Px
Measurements	1 Off	Echo spacing	1 ms
Multiple series	Off		
Resolution		Turbo factor	5
Base resolution	162	EPI factor	50
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast*
Slice partial Fourier	5/8	flip andle eveit	ΩΩ
Interpolation	Off	flip angle excit	90 ON
		phase encoding	ON O#
PAT mode	None	Maxwell compensation	Off
Dragger Normaliza	Off	ICE program	single
Prescan Normalize	-	prepscans	0
Raw filter	Off		
Geometry			
Series	Interleaved		
Sat. region 1			
Thickness	40 mm		
Position	R67.7 A24.0 F60.0		
1 OSILIOI1	1.01.1 1.27.01 00.0		

\\USER\Feinberglab\Tanja\GRASE_VASO\BP_grase_clean_VASO_V04_pFoff_iPAT2x1_V170
TA: 0:13 PAT: 2 Voxel size: 0.8×0.8×0.8 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V04

Prio Recon	Properties		Series	Interleaved
Before measurement		Off	Sat. region 1	
After measurement Lad to viewer On Inline movie Off Septial sat. None Auto store images On Table position H Table position On Table position H Table position H Table position On Table position H Table position H Table position On Table position H Table position Table position Table position H Transversal F > L Table position Table position Table position Table position Table position H Table position		.		40 mm
Load to viewer On				
Inline movie		On		
Auto store images		_		· ·
Load to stamp segments			Special sat.	
Table position		_	Table position	Н
Inline Composing				0 mm
System System Auto-poin inline display A		Oπ		
Start measurement without further preparation M2				
Magn_reparation Walt for use to start Walt for use to start Single Walt for use to start				
Walt for user to start Start measurements Start May	Start measurement without	On	T1	On
Statt measurements	further preparation		M2	On
Routine	Wait for user to start	Off	B4	On
Routine	Start measurements	single	M3	On
Slab group 1	,			
Slabs				
Dist factor			Positioning mode	REF
Position			MSMA	S - C - T
Position	Dist. factor	0 %	Sagittal	R >> L
Orientation Transversal F >> H Phase enc. dir. R >> L Save uncombined Off Rotation 90.00 deg Coll Combine Mode Adaptive Combine Phase oversampling 0.0 % Auto Coil Select Default Slice oversampling 0.0 % Auto Coil Select Default Slice oversampling 0.0 % Auto Coil Select Default Slice oversampling 0.0 % Auto Coil Select Default Fov read 130 mm Shim mode Standard Fov phase 30.9 % Confirm freq. adjustment Off Slice thickness 0.8 mm Confirm freq. adjustment Off Averages 1 Assume Silicone Off TE 36.88 ms 1 Ref. amplitude 11 H 170.000 V Averages 1 Adjust volume Auto Position L47.0 A29.0 F6.7 Transversal Contrast None Position L47.0 A29.0 F6.7 Contrast Rotation Position Position <	Position	L47.0 A29.0 F6.7		A >> P
Phase enc. dir. R >> L Rotation 90.00 deg Phase oversampling 0.0 % Adaptive Combine Coil Combine Mode Adaptive Combine MutoAligin Coil Combine Mode Adaptive Combine Adaptive Combine Coil Combine Mode Coil Coil Coil Coil Coil Coil Coil Coil	Orientation	Transversal		F >> H
Rotation	Phase enc. dir.	R >> L		
Phase oversampling				
Silice oversampling				•
Slices per slab				
FoV read			Auto Coil Select	Delauli
FoV phase		-	Shim mode	Standard
Slice thickness 0.8 mm 2500 ms TR 2500 ms			Adjust with body coil	Off
Assume Silicone				_
Resolution				
Averages				
Adjust volume				
None Position L47.0 A29.0 F6.7	_	1		Auto
Note	Concatenations	1	•	L 47 0 400 0 FC 7
Contrast B4,M2,3,11 Rotation 90.00 deg Contrast A > P 130 mm Magn. preparation Non-sel. IR R > L 41 mm TI 1400 ms F >> H 7 mm Flip angle 180 deg Physio Fat suppr. Fat sat. Physio Fat sat. mode Strong Tomposing Averaging mode Long term Composing Reconstruction Magnitude Sequence Measurements 1 Introduction Off Multiple series Off Introduction Off Pass resolution 162 Reordering Centric Contrasts 1 Lond width 1144 Hz/Px Slice partial Fourier Off Bandwidth 1144 Hz/Px Slice partial Fourier Off Turbo factor 8 Interpolation Off Turbo factor 8 PAT mode GRAPPA RF pulse type Normal Accel. factor PE 2 Gradient mode	Filter	None		
Contrast A >> P 130 mm Magn. preparation Non-sel. IR R >> L 41 mm TI 1400 ms F >> H 7 mm Flip angle 180 deg Physio Fat suppr. Fat sat. Physio Fat sat. mode Strong 1st Signal/Mode None Averaging mode Long term Composing Reconstruction Magnitude Sequence Measurements 1 Introduction Off Multiple series Off Dimension 3D Resolution 100 % Reordering Centric Contrasts 1 Bandwidth 1144 Hz/Px Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Slice partial Fourier Off Turbo factor 8 Interpolation Off Turbo factor 8 PAT mode GRAPPA GRAPPA RF pulse type Normal Accel. factor PE 2 flip angle excit 90 Accel. factor 3D	Coil elements	B4;M2,3;T1		
Magn. preparation Non-sel. IR R >> L 41 mm TI 1400 ms F >> H 7 mm Flip angle 180 deg Physio Fat suppr. Fat sat. Tst Signal/Mode None Averaging mode Long term Composing Reconstruction Magnitude Sequence Measurements 1 Introduction Off Multiple series Off Introduction Off Passe resolution 162 Perodering Centric Phase resolution 100 % Bandwidth 1144 Hz/Px Slice partial Fourier Off Echo spacing 1.1 ms Slice partial Fourier Off Turb factor 8 Interpolation Off Turb factor 50 PAT mode GRAPPA RF pulse type Normal Accel, factor PE 2 Fast' Ref, lines PE 24 filip angle excit 90 Accel, factor 3D 1 phase encoding ON	0			•
Tiling angle		N 115		
Flip angle Fat suppr. Fat sat. mode Averaging mode Reconstruction Magnitude Measurements Multiple series Off Base resolution Slice resolution Slice partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines 3D Reference scan mode Reference scan mode Resonstruction Strong Averaging mode Long term Composing Sequence Sequence Introduction Off Dimension Sequence Introduction Off Dimension Sequence Introduction Off Dimension Sequence Introduction Off Dimension Sequence Introduction Off Introducti				41 mm
Fat suppr. Fat sat. mode Strong Averaging mode Reconstruction Magnitude Measurements Multiple series Off Base resolution Slice resolution Slice partial Fourier Interpolation Off PAT mode Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D Ref. lines 3D Resolution Fat sat. Physio Strong Composing Sequence Introduction Off Dimension Sequence Introduction Off Dimension SD Reordering Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Turbo factor 8 EPI factor 50 RF pulse type Normal Gradient mode Fast* flip angle excit 90 Acxel. factor 3D Ref. lines 3D Reference scan mode Separate Prescan Normalize Off Raw filter Off Raw filter Off Turbo factor 8 Filines Gradient mode Fast* Flip angle excit 90 Axwell compensation Off ICE program single Prepscans 3			F >> H	7 mm
Fat sat, mode Strong 1st Signal/Mode None Averaging mode Long term Reconstruction Magnitude Measurements 1 Multiple series Off Dimension 3D Resolution 162 Phase resolution 100 % Slice partial Fourier Off Introduction 100 % Slice partial Fourier Off Slice partial Fourier Off Slice partial Fourier Off Slice Seculation 100 % PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Reference scan mode Separate First Signal/Mode None Strong Tst Signal/Mode None Sequence Introduction Off Off Dimension 3D Requester Sequence Centric Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Turbo factor 8 EPI factor 8 EPI factor 50 Ref pulse type Normal Gradient mode Fast* Sequence Magnetic 90 Requester 114 Hz/Px Fat Signal/Mode None Sequence Sequence Introduction Off Dimension 3D Recordering Centric Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Signal/Mode None Sequence Magnetic 90 Ref pulse type Normal Gradient mode Fast* Sequence Magnetic 90 Recordering ON Maxwell compensation Off ICE program single prepscans 3 Reference scan Normalize Off Prescan Normalize Prescan Normalize Off Prescan Normalize Off Sequence Normal Sequence N	, , ,		Physic	
Averaging mode Reconstruction Magnitude Measurements Multiple series Off Base resolution Base resolution Slice resolution Slice partial Fourier Interpolation Off Off PAT mode Accel. factor PE Ref. lines PE Accel. factor 3D Reference scan mode Reconstruction Magnitude Sequence Sequence Introduction Off Dimension Slore partial Fourier Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Turbo factor 8 Interpolation Fast* Gradient mode Fast* flip angle excit phase encoding Naxwell compensation Off Ref. lines 3D Reference scan mode Separate Prescan Normalize Off Raw filter Off Composing Sequence Composing Sequence Sequence Composing Sequence Sequence Fast Composing Sequence Sequence Sequence Introduction Off Dimension 3D Reordering Centric Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Turbo factor 8 Interpolation Sequence Composing Acquence Sequence Facretic Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Solve article and a sequence Sequence Facretic Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Sequence Comtric Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Sequence Controic Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Sequence Controic Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Sequence Controic Contro	Fat suppr.	Fat sat.		Mana
Reconstruction Magnitude Measurements 1 Multiple series Off Dimension 3D Resolution 162 Phase resolution 100 % Slice resolution 100 % Slice partial Fourier Off Interpolation Off Interpolation Off PAT mode Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Reconstruction Magnitude Sequence Introduction Off Interpolation Off Interpolation Off Interpolation Off Interpolation Off Interpolation Interpolati	Fat sat. mode	Strong	rst Signal/Wode	none
Reconstruction Magnitude Measurements 1 Multiple series Off Dimension 3D Resolution 162 Phase resolution 100 % Slice resolution 100 % Slice partial Fourier Off Interpolation Off Interpolation Off PAT mode Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Reconstruction Magnitude Sequence Introduction Off Interpolation Off Interpolation Off Interpolation Off Interpolation Off Interpolation Interpolati	Averaging mode	Long torm	Composing	
Measurements 1 Multiple series Off Off Dimension 3D Resolution 3D Reordering Centric Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Slice partial Fourier Off Interpolation Off EPI factor 50 PAT mode Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D Reference scan mode Separate Prescan Normalize Prescan Normalize Raw filter Off Interpolation Off Raw filter Off Prescan Normalize Resolution Off Resolution Off Prescan Normalize Off Prescan Normalize Off Off Off Off Off Off Off Off Off Of				
Multiple series Off Resolution Resolution			<u>. </u>	
Resolution Base resolution 162 162 144 Hz/Px		•		
Base resolution 162 Phase resolution 100 % Slice resolution 100 % Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 4Accel. factor 3D Ref. lines 3D Reference scan mode Separate Prescan Normalize Raw filter Off Contrasts 1 Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Turbo factor 8 EPI factor 50 RF pulse type Normal Gradient mode Fast* flip angle excit 90 Maxwell compensation Off ICE program single prepscans 3 Reference scan solution 100 % Echo spacing 1.1 ms Turbo factor 8 FP pulse type Normal Gradient mode Fast* Flip angle excit 90 Maxwell compensation Off ICE program single prepscans 3	iviuitipie series	Off		
Base resolution 162 Phase resolution 100 % Slice resolution 100 % Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 4Accel. factor 3D Reference scan mode Separate Prescan Normalize Raw filter Bandwidth 1144 Hz/Px Echo spacing 1.1 ms Turbo factor 8 EPI factor 50 RF pulse type Normal Gradient mode Fast* flip angle excit 90 Maxwell compensation Off ICE program single prepscans 3	Resolution		<u> </u>	Centric
Phase resolution 100 % Echo spacing 1.1 ms Slice partial Fourier Off Turbo factor 8 Interpolation Off EPI factor 50 PAT mode GRAPPA RF pulse type Normal Gradient mode Fast* Ref. lines PE 24 flip angle excit 90 Accel. factor 3D 1 phase encoding ON Ref. lines 3D 8 Maxwell compensation Off ICE program single Prescan Normalize Off Raw filter Off		162	Contrasts	1
Slice resolution 100 % Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D Ref. lines 3D Reference scan mode Separate Prescan Normalize Raw filter Slice partial Fourier Off Turbo factor 8 Turbo factor 8 EPI factor 50 RF pulse type Normal Gradient mode Fast* Ilip angle excit 90 Phase encoding ON Maxwell compensation Off ICE program single Prepscans 3			Bandwidth	1144 Hz/Px
Slice partial Fourier Off Turbo factor 8 Interpolation Off EPI factor 50 PAT mode GRAPPA Ref. lines PE 24 Ref. lines 3D 8 Maxwell compensation Off Reference scan mode Separate Prescan Normalize Rewinds Off Rewinds Single Prepscans Off Rewinds Off Rewinds Off Rewinds Off Rewinds Off Reference Scan Scan Scan Scan Scan Scan Scan Scan			Echo spacing	1.1 ms
Interpolation Off EPI factor 50 PAT mode GRAPPA RF pulse type Normal Accel. factor PE 2 Ref. lines PE 24 flip angle excit 90 Accel. factor 3D 1 phase encoding ON Ref. lines 3D 8 Maxwell compensation Off Reference scan mode Separate ICE program single Prescan Normalize Off prepscans 3				
PAT mode GRAPPA RF pulse type Normal Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 phase encoding ON Ref. lines 3D 8 Reference scan mode Separate ICE program single Prescan Normalize Off Raw filter Off	1			
Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 8 Reference scan mode Fast* Maxwell compensation Off Reference Normalize Off Raw filter Off Gradient mode Fast* flip angle excit 90 phase encoding ON Maxwell compensation Off ICE program single prepscans 3	interpolation	OII		
Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 8 Reference scan mode Fast* Maxwell compensation Off Rescan Normalize Off Raw filter Off Gradient mode Fast* flip angle excit 90 phase encoding ON Maxwell compensation Off ICE program single prepscans 3	PAT mode	GRAPPA		
Ref. lines PE 24 flip angle excit 90 Accel. factor 3D 1 phase encoding ON Ref. lines 3D 8 Maxwell compensation Off Reference scan mode Separate ICE program single Prescan Normalize Off prepscans 3			Gradient mode	Fast*
Accel. factor 3D 1 phase encoding ON Phase encoding Phase encoding Phase encoding ON Maxwell compensation Off ICE program single Prescan Normalize Off Prescan Solution Off Off Naw filter Off			flip angle avoit	
Ref. lines 3D 8 Maxwell compensation Off Reference scan mode Separate ICE program single Prescan Normalize Off prepscans 3 Raw filter Off				
Reference scan mode Separate ICE program single Prescan Normalize Off prepscans 3 Raw filter Off		•		
Prescan Normalize Off prepscans 3 Raw filter Off				
Raw filter Off	Reference scan mode	Separate		
Raw filter Off	Prescan Normalize	Off	prepscans	3
			•	
	1 Naw Intol	5 11		

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Properties		Table position	0 mm
Prio Recon	Off	Inline Composing	Off
Before measurement		System	
After measurement		T1	On
Load to viewer	On	M2	On
Inline movie	Off	B4	On
Auto store images	On	M3	On
Load to stamp segments	Off	V32	Off
Load images to graphic	Off	Desitioning mode	REF
segments		Positioning mode	S-C-T
Auto open inline display	Off	MSMA Sogittal	S-C-1 R>>L
Start measurement without	On	Sagittal Coronal	R >> L A >> P
further preparation		Transversal	A >> P F >> H
Wait for user to start	Off		г>>п Off
Start measurements	single	Save uncombined	_
Routine		Coil Combine Mode AutoAlign	Adaptive Combine
		Auto Coil Select	
Slab group 1 Slabs	1	Auto Coil Select	Default
Dist. factor	0 %	Shim mode	Standard
Position	lsocenter	Adjust with body coil	Off
Orientation	Transversal	Confirm freq. adjustment	Off
Phase enc. dir.	A >> P	Assume Silicone	Off
Rotation		? Ref. amplitude 1H	0.000 V
Phase oversampling	0.00 deg 0 %	Adjustment Tolerance	Auto
Slice oversampling	0.0 %	Adjust volume	
Slices per slab	18	Position	Isocenter
FoV read	184 mm	Orientation	Transversal
FoV read FoV phase	33.3 %	Rotation	0.00 deg
Slice thickness	1.8 mm	R >> L	184 mm
TR	2000 ms	A >> P	62 mm
TE	35.2 ms	F >> H	33 mm
Averages	1	Physio	
Concatenations	1	•	None
Filter	None	1st Signal/Mode	None
Coil elements	B4;M2,3;T1	Composing	
Con elements	D+,IVI2,0,11	Coguenee	
Contrast		Sequence	0#
Magn. preparation	None	Introduction	Off
Flip angle	180 deg	Dimension	3D Centric
Fat suppr.	Fat sat.	Reordering Contrasts	
Fat sat. mode	Strong	Bandwidth	1 1402 Hz/Px
Averaging mode	Long term		
Reconstruction	Magnitude	Echo spacing	0.8 ms
Measurements	3	Turbo factor	11
Pause after meas. 1	0.0 s	EPI factor	36
Pause after meas. 2	0.0 s	RF pulse type	Normal
Multiple series	Off	Gradient mode	Fast
•	Oli		-i 0FC0
esolution		refocussing type	sinc 2560
Base resolution	108	flip angle excit	90 ON
Phase resolution	100 %	phase encoding	ON Off
Slice resolution	100 %	Maxwell compensation ICE program	Off
Slice partial Fourier	5/8		single 0
Interpolation	Off	prepscans	U
PAT mode	None		
Prescan Normalize	Off		
Raw filter	Off		
	~		
Geometry Series	Interleaved		
Special sat.	None		
Opeciai sat.	INOLIC		

Table position

\\USER\Feinberglab\Tanja\GRASE VASO\BP grase clean VA	30 V05 pF58 V170

TA: 2.5 s PAT: Off Voxel size: 0.8×0.8×0.8 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V05

Properties		Orientation Special sat.	Sagittal None
Prio Recon	Off		
Before measurement		Table position	Н
After measurement		Table position	0 mm
Load to viewer	On	Inline Composing	Off
Inline movie	Off	System	
Auto store images	On	System	0
Load to stamp segments	Off	T1	On
Load images to graphic	Off	M2	On
segments		B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation	011	Positioning mode	FIX
Wait for user to start	Off	MSMA	S - C - T
Start measurements	single	_	
Start measurements	Sirigle	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1		— Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	L45.0 A25.0 H0.0	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	R >> L	Chim mada	Standard
Rotation		Shim mode	Standard
	90.00 deg 0 %	Adjust with body coil	Off
Phase oversampling		Confirm freq. adjustment	Off
Slice oversampling	0.0 %	Assume Silicone	Off
Slices per slab	8	! Ref. amplitude 1H	170.000 V
FoV read	120 mm	Adjustment Tolerance	Auto
FoV phase	30.7 %	Adjust volume	
Slice thickness	0.8 mm	Position	L45.0 A25.0 H0.0
TR	2500 ms	Orientation	Transversal
TE	62.44 ms	Rotation	90.00 deg
Averages	1	A >> P	120 mm
Concatenations	1	R >> L	37 mm
Filter	None	F >> H	7 mm
Coil elements	B4;M2,3;T1	1 >> 11	7 111111
_	,,-,-,-,-	Physio	
Contrast		1st Signal/Mode	None
Magn. preparation	Non-sel. IR	Composing	
TI	1400 ms	Composing	
Flip angle	180 deg	Sequence	
Fat suppr.	Fat sat.	Introduction	Off
Fat sat. mode	Strong	Dimension	3D
Averaging mode	Long torm	Reordering	Centric
Averaging mode Reconstruction	Long term	Contrasts	1
	Magnitude	Bandwidth	952 Hz/Px
Measurements	1	Echo spacing	1.2 ms
Multiple series	Off		
Resolution		RF pulse type	Normal
Base resolution	150	Gradient mode	Fast
Phase resolution	100 %	Crusher Momentum	40000
Slice resolution	100 %	Crusher Time	2000
Slice partial Fourier	5/8	refocussing type	sinc 2560
Interpolation	Off	flip angle excit	90
PAT mode	None	phase encoding	ON Off
Prescan Normalize	Off	Maxwell compensation	Off
Raw filter	Off	ICE program	single
Raw liller	Oli	prepscans	0
Geometry			
Series	Interleaved		
0-1			
Sat. region 1	40		
Thickness	40 mm		
Position	L45.0 A20.0 H0.0		

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TA: 6.0 s	PAT: Off	Voxel size: 1.7×1.7×1.8 mm	Rel. SNR: 1.00	USER: pars3d ev	

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		011
Inline movie	Off	System	
	On	T1	On
Auto store images	Off	M2	On
Load to stamp segments	_	B4	On
Load images to graphic	Off	M3	On
segments	0"	V32	Off
Auto open inline display	Off		
Start measurement without	On	Positioning mode	REF
further preparation		MSMA	S - C - T
Wait for user to start	Off	Sagittal	R >> L
Start measurements	single	Coronal	A >> P
Routine		Transversal	F >> H
		Save uncombined	Off
Slab group 1	4	Coil Combine Mode	Adaptive Combine
Slabs	1	AutoAlign	 '
Dist. factor	0 %	Auto Coil Select	Default
Position	Isocenter		
Orientation	Transversal	Shim mode	Standard
Phase enc. dir.	R >> L	Adjust with body coil	Off
Rotation	90.00 deg	Confirm freq. adjustment	Off
Phase oversampling	0 %	Assume Silicone	Off
Slice oversampling	0.0 %	? Ref. amplitude 1H	0.000 V
Slices per slab	18	Adjustment Tolerance	Auto
FoV read	184 mm	Adjust volume	71010
FoV phase	33.3 %	Position	Isocenter
Slice thickness	1.8 mm	Orientation	Transversal
TR	2000 ms	Rotation	
TE	76.6 ms		90.00 deg
		A >> P	184 mm
Averages	1	R >> L	62 mm
Concatenations	1	F >> H	33 mm
Filter	None	Physio	
Coil elements	B4;M2,3;T1	1st Signal/Mode	None
Contrast		ı	
Flip angle	180 deg	BOLD	
Fat suppr.	Fat sat.	Sequence	
Fat sat, mode	Strong	Introduction	Off
		Dimension	3D
Averaging mode	Long term	Reordering	Linear
Reconstruction	Magnitude	•	1
Measurements	3	Contrasts	-
Pause after meas. 1	0.0 s	Bandwidth	1402 Hz/Px
Pause after meas. 2	0.0 s	Echo spacing	0.8 ms
Multiple series	Off	Turbo factor	11
Resolution		EPI factor	37
	100	RF pulse type	Normal
Base resolution	108	Gradient mode	Fast
Phase resolution	100 %		
Slice resolution	100 %	Adjust flipangles	Off
Slice partial Fourier	5/8	Crusher Momentum	40000
Interpolation	Off	Crusher Time	2000
PAT mode	None	FLIP ANGLES[1]	180 degrees
		FLIP ANGLES[2]	180 degrees
Raw filter	Off	FLIP ANGLES[3]	180 degrees
Coomotry		FLIP ANGLES[4]	180 degrees
Geometry	lata da a	FLIP ANGLES[5]	180 degrees
Series	Interleaved	FLIP ANGLES[6]	180 degrees
Sat. region 1		FLIP ANGLES[7]	180 degrees
Thickness	58 mm	FLIP ANGLES[8]	180 degrees
Position	Isocenter	FLIP ANGLES[0]	180 degrees
Orientation	Sagittal	FLIP ANGLES[9] FLIP ANGLES[10]	180 degrees
Offeritation	Gagillai	I LII ANGLES[10]	100 degrees

FLIP ANGLES[11]	180 degrees
FLIP ANGLES[12]	180 degrees
FLIP ANGLES[13]	180 degrees
FLIP ANGLES[14]	180 degrees
FLIP ANGLES[15]	180 degrees
FLIP ANGLES[16]	180 degrees
FLIP ANGLES[17]	180 degrees
FLIP ANGLES[18]	180 degrees
FLIP ANGLES[19]	180 degrees
FLIP ANGLES[20]	180 degrees
FLIP ANGLES[21]	180 degrees
FLIP ANGLES[22]	180 degrees
FLIP ANGLES[23]	180 degrees
FLIP ANGLES[24]	180 degrees
FLIP ANGLES[25]	180 degrees
FLIP ANGLES[26]	180 degrees
FLIP ANGLES[27]	180 degrees
FLIP ANGLES[28]	180 degrees
FLIP ANGLES[29]	180 degrees
FLIP ANGLES[30]	180 degrees
FLIP ANGLES[31]	180 degrees
FLIP ANGLES[32]	180 degrees
Phase Encoding	On
Measurement Number	0
Inversion Time	1500000 us
Inversion Flag	Off

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TA: 6:00 PAT: 3 Voxel size: 0.5×0.5×3.0 mm Rel. SNR: 1.00 SIEMENS: CV			
Description		Unfiltered images	Off
Properties		Distortion Corr.	On
Prio Recon	Off	Mode	2D
Before measurement		Unfiltered images	Off
After measurement		Prescan Normalize	Off
Load to viewer	On	Normalize	Off
Inline movie	On	B1 filter	Off
Auto store images	On	Raw filter	Off
Load to stamp segments	On	Elliptical filter	Off
Load images to graphic	On	POCS	Off
segments		1003	Oil
Auto open inline display	On	Geometry	
Start measurement without	On	Multi-slice mode	Sequential
further preparation	_	Series	Interleaved
Wait for user to start	Off		
Start measurements	single	Special sat.	None
Otan measurements	Sirigie		
Routine		Table position	Н
Slice group 1		Table position	0 mm
Slices	6	Inline Composing	Off
Dist. factor	0 %		J 11
Position	R1.3 P48.6 F13.5	System	
Orientation	C > T-5.1	T1	On
Phase enc. dir.	C > 1-5.1 H >> F	M2	On
		B4	On
Rotation	-89.999728 deg	M3	On
Auto	On	V32	Off
Phase oversampling	0 %	V 32	
FoV read	128 mm	Positioning mode	FIX
FoV phase	100.0 %	MSMA	S - C - T
Slice thickness	3 mm	Sagittal	R >> L
TR	1837.82 ms	Coronal	A >> P
TE	16.00 ms	Transversal	F >> H
Averages	1	Save uncombined	Off
Concatenations	6		
Filter	Distortion Corr.(2D), Image	Coil Combine Mode	Adaptive Combine
i iitei	Filter	AutoAlign	
Coil elements		Auto Coil Select	Off
Con elements	B4;M2,3;T1	Shim mode	Standard
Contrast		Adjust with body coil	Off
TD	0 ms	Confirm freq. adjustment	Off
Magn. preparation	None	Assume Silicone	
Flip angle	60 deg		Off
Fat suppr.	None	! Ref. amplitude 1H	230.000 V
Restore magn.	Off	Adjustment Tolerance	Auto
Restore magn.	OII	Adjust volume	
Averaging mode	Short term	! Position	Isocenter
Reconstruction	Magnitude	! Orientation	Transversal
Measurements	1	! Rotation	0.00 deg
Multiple series	Each slice	! R >> L	350 mm
Maniple series	24011 01100	! A >> P	263 mm
Resolution		! F >> H	350 mm
Base resolution	256	— I	
Phase resolution	100 %	Physio	
Phase partial Fourier	6/8	1st Signal/Mode	Pulse/Trigger
Trajectory	Cartesian	Average cycle	No Signal ms
View sharing	Off	Captured cycle	-not set-
Interpolation	Off	Acquisition window	30000 ms
merpolation		Trigger pulse	1
PAT mode	GRAPPA	Trigger delay	0 ms
Accel. factor PE	3	Segments	86
Ref. lines PE	24	Phases	16
Reference scan mode	Integrated		
		Tagging	None
Image Filter	On	Dark blood	Off
! Intensity	Medium	Cine	On
: 11116119114			
	1	I Dummy neartheats	· ·
Edge Enhancement Smoothing	1 3	Dummy heartbeats Inline ventricular function	1 Off

Resp. control	Off
Inline	
Subtract	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
Sequence	
Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Allowed
Bandwidth	149 Hz/Px
Flow comp.	Yes
Optimization	Min. TR
Allowed delay	0 s
Echo spacing	21.4 ms
Sequence type	Gre
Define	Segments
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On

 $\verb|\USER\Fe| in berglab \Tanja \GRASE_VASO \fl3d_retro_pt5mm_FC| \\$

Rel. SNR: 1.00

SIEMENS: CV

Voxel size: 0.5×0.5×3.0 mm

TA: 10:30

PAT: 3

		Image Filter	On
Properties		Image Filter	On Medium
Prio Recon	Off	! Intensity	
Before measurement		Edge Enhancement	1
After measurement		Smoothing	3
Load to viewer	On	Unfiltered images	Off
Inline movie	On	Distortion Corr.	On
Auto store images	On	Mode	2D
Load to stamp segments	On	Unfiltered images	Off
Load images to graphic	On	Prescan Normalize	Off
segments	Oli	Normalize	Off
Auto open inline display	On	B1 filter	Off
		Raw filter	Off
Start measurement without	On	Elliptical filter	Off
further preparation	0"	POCS	Off
Wait for user to start	Off		
Start measurements	single	Geometry	
Routine		Multi-slice mode	Sequential
Slab group 1		Series	Interleaved
Slabs	1	Special sat.	None
Dist. factor	20 %		
Position	R1.3 P38.5 F10.8	Table position	
Orientation	Coronal	Table position	H
		Table position	0 mm
Phase enc. dir.	H >> F	Inline Composing	Off
Rotation	-90.00 deg	System	
Auto	On	T1	On
Phase oversampling	0 %	M2	On
Slice oversampling	0.0 %	B4	On
Slices per slab	10	M3	On
FoV read	128 mm		_
FoV phase	100.0 %	V32	Off
Slice thickness	3.00 mm	Positioning mode	FIX
TR	1842.12 ms	MSMA	S - C - T
TE	16.00 ms	Sagittal	R >> L
Averages	1	Coronal	A >> P
Concatenations	1		
Filter	Distortion Corr.(2D), Image	Transversal	F >> H
1 iitei	Filter	Save uncombined	Off
Coil elements	B4;M2,3;T1	Coil Combine Mode	Adaptive Combine
Con elements	D4,IVI2,3,1 1	AutoAlign	
Contrast		Auto Coil Select	Off
Magn. preparation	None	Shim mode	Standard
Flip angle	30 deg	Adjust with body coil	Off
Fat suppr.	None	Confirm freq. adjustment	Off
Restore magn.	Off	Assume Silicone	Off
		! Ref. amplitude 1H	200.000 V
Averaging mode	Short term	•	
Reconstruction	Magnitude	Adjustment Tolerance	Auto
Measurements	1	Adjust volume	laggantar
Multiple series	Off	! Position	Isocenter
Resolution		! Orientation	Transversal
	256	! Rotation	0.00 deg
Base resolution	256	! R >> L	350 mm
Phase resolution	100 %	! A >> P	263 mm
Slice resolution	100 %	! F >> H	350 mm
Phase partial Fourier	6/8	Physio	
Slice partial Fourier	Off		ECC/Trigger
Trajectory	Cartesian	1st Signal/Mode	ECG/Trigger
View sharing	Off	Average cycle	No Signal ms
Interpolation	Off	Captured cycle	-not set-
DAT mode	CDADDA	Acquisition window	30000 ms
PAT mode	GRAPPA	Trigger pulse	1
Accel. factor PE	3	Trigger delay	0 ms
Ref. lines PE	24	Segments	84
Accel. factor 3D	1	Phases	16
Reference scan mode	Integrated	Tagging	None
		l agging	INUITE

Dark blood	Off
Cine	On
Dummy heartbeats	1
Inline ventricular function	Off
Poen control	Off
Resp. control	Oli
Inline	
Subtract	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
Sequence	
Introduction	Off
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Allowed
Bandwidth	149 Hz/Px
Flow comp.	Yes
Optimization	Min. TR
Allowed delay	0 s
Echo spacing	21.9 ms
Sequence type	Gre
Define	Segments
RF pulse type	Low SAR
Gradient mode	Normal
Excitation	Slab-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
. Hadd Ella Rowlladi	

\\USER\Feinberglab\Tanja\GRASE_VASO\fl3d_retro_pt5mm_smallFlip

Voxel size: 0.5×0.5×3.0 mm Rel. SNR: 1.00

SIEMENS: CV

TA: 10:30

TA. 10.30	PAT. 3 VOXel Size. 0.5x0.5.	x3.0 IIIII Rei. SNR. 1.00	SIEWENS. CV
		Imaga Filter	On
Properties		Image Filter	On Madium
Prio Recon	Off	_ ! Intensity	Medium
Before measurement		Edge Enhancement Smoothing	1 3
After measurement		Unfiltered images	Off
Load to viewer	On	Distortion Corr.	On
Inline movie	On	Mode	2D
Auto store images	On	Unfiltered images	Off
Load to stamp segments	On	Prescan Normalize	Off
Load images to graphic	On	Normalize	Off
segments		B1 filter	Off
Auto open inline display	On	Raw filter	Off
Start measurement without	On	Elliptical filter	Off
further preparation		POCS	Off
Wait for user to start	Off	I	
Start measurements	single	Geometry	
Routine		Multi-slice mode	Sequential
Slab group 1		Series	Interleaved
Slabs	1	Special sat.	None
Dist. factor	20 %		
Position	R1.3 P38.5 F10.8	Table position	Н
Orientation	Coronal	Table position	0 mm
Phase enc. dir.	H >> F	Inline Composing	Off
Rotation	-90.00 deg		
Auto	On	System	
Phase oversampling	0 %	T1	On
Slice oversampling	0.0 %	M2	On
Slices per slab	10	B4	On
FoV read	128 mm	M3	On
FoV phase	100.0 %	V32	Off
Slice thickness	3.00 mm	Positioning mode	FIX
TR	1816.92 ms	MSMA	S - C - T
TE	16.00 ms	Sagittal	R >> L
Averages	1	Coronal	A >> P
Concatenations	1	Transversal	F >> H
Filter	Distortion Corr.(2D), Image	Save uncombined	Off
	Filter	Coil Combine Mode	Adaptive Combine
Coil elements	B4;M2,3;T1	AutoAlign	'
Contrast		Auto Coil Select	Off
Magn. preparation	None	China mada	Ctandard
Flip angle	5 deg	Shim mode	Standard
Fat suppr.	None	Adjust with body coil	Off
Restore magn.	Off	Confirm freq. adjustment Assume Silicone	Off
		? Ref. amplitude 1H	Off 0.000 V
Averaging mode	Short term	Adjustment Tolerance	Auto
Reconstruction	Magnitude	Adjust volume	Auto
Measurements	1	! Position	Isocenter
Multiple series	Off	! Orientation	Transversal
Resolution		! Rotation	0.00 deg
Base resolution	256	_ ! R >> L	350 mm
Phase resolution	100 %	! A >> P	263 mm
Slice resolution	100 %	! F >> H	350 mm
Phase partial Fourier	6/8	I	
Slice partial Fourier	Off	Physio	
Trajectory	Cartesian	1st Signal/Mode	ECG/Trigger
View sharing	Off	Average cycle	No Signal ms
Interpolation	Off	Captured cycle	-not set-
		Acquisition window	30000 ms
PAT mode	GRAPPA	Trigger pulse	1
Accel. factor PE	3	Trigger delay	0 ms
Ref. lines PE	24	Segments	84
Accel. factor 3D]	Phases	16
Reference scan mode	Integrated	Tagging	None
1		·99···9	

Dark blood	Off
Cine	On
Dummy heartbeats	1
Inline ventricular function	Off
Resp. control	Off
Inline	
Subtract	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
Sequence	
Introduction	Off
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Allowed
Bandwidth	149 Hz/Px
Flow comp.	No Min TD
Optimization	Min. TR
Allowed delay	0 s
Echo spacing	21.6 ms
Sequence type	Gre
Define	Segments
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slab-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
1	

\\USER\Feinberglab\Tanja\GRASE_VASO\VASO_118_broken				
TA: 13:16 PA	T: 2 Voxel size: 0.7×0.7×1.	8 mm Rel. SNR: 1.00 US	SER: VASO_118	
TA. 15.10	11. 2 VOXel 3l2e. 0.7×0.7×1.	8 IIIII Rei. SINIX. 1:00 OX	JEN: VA30_110	
Properties		PAT mode	GRAPPA	
Prio Recon	Off	- Accel. factor PE	2	
Before measurement		Ref. lines PE	24	
After measurement		Accel. factor 3D	1	
Load to viewer	On	Ref. lines 3D	8	
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	Hamming	Off	
Auto open inline display	Off		O.I.	
Start measurement without	On	Geometry		
further preparation	Oli	Multi-slice mode	Interleaved	
Wait for user to start	Off	Series	Ascending	
Start measurements	single	Chaoial aat	Parallel F	
Start measurements	Sirigle	Special sat.		
Routine		Gap	25.0 mm	
Slab group 1		- Thickness	100 mm	
Slabs	1	Table position	Н	
Dist. factor	50 %	Table position	0 mm	
Position	Isocenter	Inline Composing	Off	
Orientation	Transversal	1		
Phase enc. dir.	R >> L	System		
Rotation	120.00 deg	Positioning mode	REF	
Phase oversampling	0 %	MSMA	S-C-T	
Slice oversampling	0.0 %	Sagittal	R >> L	
Slices per slab	10	Coronal	A >> P	
FoV read	32.8 mm		F >> H	
FoV phase	300.0 %	Transversal		
Slice thickness	1.80 mm	Save uncombined	Off	
TR	1648.90 ms	Coil Combine Mode	Sum of Squares	
TE	24 ms	AutoAlign	 D ()	
Averages	1	Auto Coil Select	Default	
Concatenations	1	Shim mode	Standard	
Filter	None	Adjust with body coil	Off	
Coil elements	None	Confirm freq. adjustment	Off	
Coll elements		Assume Silicone	Off	
Contrast		? Ref. amplitude 1H	0.000 V	
Perfusion mode	SS-SI VASO	Adjustment Tolerance	Auto	
TI2	900 ms	Adjust volume	rate	
TI1	50 ms	Position	Isocenter	
TI1s	50 ms	Orientation	Transversal	
Flip angle	30 deg	Rotation	210.00 deg	
Fat suppr.	Fat sat.	R >> L	99 mm	
Fat sat. mode	Strong	A >> P	33 mm	
		F >> H	18 mm	
Averaging mode	Long term		10 111111	
Reconstruction	Magnitude	Physio		
Measurements	483	1st Signal/Mode	None	
Delay in TR	0 ms	1		
Multiple series	Off	BOLD		
Porfusion mode	DICODE OST	Motion correction	Off	
Perfusion mode Inversion time 1	PICORE Q2T	Spatial filter	Off	
	50 ms 50 ms	Sequence		
Saturation stop time	900.0 ms	Introduction	On	
Inversion time 2		Dimension	3D	
Flow limit	100.0 cm/s	Reordering	Linear	
Resolution		Contrasts	1	
Base resolution	44	Bandwidth	1042 Hz/Px	
Phase resolution	100 %	Free echo spacing	Off	
Slice resolution	100 %	Echo spacing	1.08 ms	
Phase partial Fourier	6/8	Lono spacing		
Slice partial Fourier	Off	EPI factor	132	
Interpolation	Off	RF pulse type	Normal	

Off

Interpolation

RF pulse type

Gradient mode

Normal

Excitation	Slab-sel.
RF spoiling	On
Ampl	110
BWDTH	150 3.1kHz
ph.skip 4 Robert (the one)	30
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off
FFT scale	1.00
dummy prepscan time	3 s
z shim	0.00 mT/m*ms
RF duration	2560 us
RF BWTP	5.2
Renzo: Delta TI	72 ms
EFFECTIVE TR	16488 ms
PatPartitions	10
EPI phase correction	local
PAT refscan mode	Flash
FlashRef BaseRes	44
FlashRef BW	1000 Hz/px
FlashRef TE	4800 us
FlashRef FA	5 deg
use CAIPI	Off

\\USER\Feinberglab\Tanja\GRASE_VASO\pgrs3d_ey					
TA: 6.0 s	PAT: Off	Voxel size: 0.8×0.8×0.8 mm	Rel. SNR: 1.00	USER: pgrs3d_ey	
		l Sne	ecial sat	None	

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	T1	On
Load to stamp segments	Off	M2	On
Load images to graphic	Off	B4	On
segments		M3	On
Auto open inline display	Off	V32	Off
Start measurement without	On	Positioning mode	REF
further preparation		MSMA	S - C - T
Wait for user to start	Off	Sagittal	R >> L
Start measurements	single	Coronal	A >> P
D (*	ŭ	Transversal	F >> H
Routine		- Save uncombined	Off
Slab group 1		Coil Combine Mode	Adaptive Combine
Slabs	1	AutoAlign	
Dist. factor	0 %	Auto Coil Select	Default
Position	Isocenter		
Orientation	Transversal	Shim mode	Standard
Phase enc. dir.	A >> P	Adjust with body coil	Off
Rotation	0.00 deg	Confirm freq. adjustment	Off
Phase oversampling	0 %	Assume Silicone	Off
Slice oversampling	0.0 %	? Ref. amplitude 1H	0.000 V
Slices per slab	16	Adjustment Tolerance	Auto
FoV read	184 mm	Adjust volume	
FoV phase	19.1 %	Position	Isocenter
Slice thickness	0.8 mm	Orientation	Transversal
TR	2000 ms	Rotation	0.00 deg
TE	54.1 ms	R >> L	184 mm
Averages	1	A >> P	36 mm
Concatenations	1	F >> H	13 mm
Filter	None	Physio	
Coil elements	B4;M2,3;T1	1st Signal/Mode	None
Contrast			
Flip angle	180 deg	- BOLD	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
A	1 4	Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction	Magnitude	Contrasts	1
Measurements	3	Bandwidth	1358 Hz/Px
Pause after meas. 1	0.0 s	Echo spacing	1 ms
Pause after meas. 2	0.0 s Off		
Multiple series	Oil	Turbo factor	10
Resolution		EPI factor	44
Base resolution	230	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast*
Slice resolution	100 %	Adjust flipangles	Off
Slice partial Fourier	5/8	Crusher Momentum	40000
Interpolation	Off	Crusher Time	2000
	None	FLIP ANGLES[1]	180 degrees
PAT mode	None	FLIP ANGLES[2]	180 degrees
Raw filter	Off	FLIP ANGLES[3]	180 degrees
		FLIP ANGLES[4]	180 degrees
~ .			
Geometry Series	Interleaved	- FLIP ANGLES[5]	180 degrees
	Interleaved	FLIP ANGLES[5] FLIP ANGLES[6]	180 degrees 180 degrees
Series Sat. region 1		FLIP ANGLES[5] FLIP ANGLES[6] FLIP ANGLES[7]	180 degrees 180 degrees 180 degrees
Series Sat. region 1 Thickness	35 mm	FLIP ANGLES[5] FLIP ANGLES[6] FLIP ANGLES[7] FLIP ANGLES[8]	180 degrees 180 degrees 180 degrees 180 degrees
Series Sat. region 1		FLIP ANGLES[5] FLIP ANGLES[6] FLIP ANGLES[7]	180 degrees 180 degrees 180 degrees

FLIP ANGLES[11]	180 degrees
FLIP ANGLES[12]	180 degrees
FLIP ANGLES[13]	180 degrees
FLIP ANGLES[14]	180 degrees
FLIP ANGLES[15]	180 degrees
FLIP ANGLES[16]	180 degrees
FLIP ANGLES[17]	180 degrees
FLIP ANGLES[18]	180 degrees
FLIP ANGLES[19]	180 degrees
FLIP ANGLES[20]	180 degrees
FLIP ANGLES[21]	180 degrees
FLIP ANGLES[22]	180 degrees
FLIP ANGLES[23]	180 degrees
FLIP ANGLES[24]	180 degrees
FLIP ANGLES[25]	180 degrees
FLIP ANGLES[26]	180 degrees
FLIP ANGLES[27]	180 degrees
FLIP ANGLES[28]	180 degrees
FLIP ANGLES[29]	180 degrees
FLIP ANGLES[30]	180 degrees
FLIP ANGLES[31]	180 degrees
FLIP ANGLES[32]	180 degrees
Phase Encoding	On
Measurement Number	0
Inversion Time	1500000 us
Inversion Flag	Off

USER: VASO_118 Voxel size: 0.7x0.7x1.8 mm Rel. SNR: 1.00 TA: 8.3 s PAT: 2

Properties		PAT mode	GRAPPA
Prio Recon	Off	— Accel. factor PE	2
Before measurement		Ref. lines PE	24
After measurement		Accel. factor 3D	1
Load to viewer	On	Ref. lines 3D	8
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	Oli	Hamming	Off
Auto open inline display	Off	Hamming	Oll
Start measurement without	On	Geometry	
	Oli	Multi-slice mode	Interleaved
further preparation Wait for user to start	Off	Series	Ascending
Start measurements	single	Special sat.	Parallel F
Routine		Gap	25.0 mm
Slab group 1		— Thickness	100 mm
Slabs	1	Table position	Н
Dist. factor	50 %	Table position	0 mm
Position	Isocenter	Inline Composing	Off
Orientation	Transversal	minie Composing	Oil
Phase enc. dir.	A >> P	System	
Rotation	30.00 deg	T1	On
Phase oversampling	0 %	M2	On
		B4	On
Slice oversampling	0.0 %	M3	On
Slices per slab	10	V32	Off
FoV read	32.8 mm		
FoV phase	300.0 %	Positioning mode	REF
Slice thickness	1.80 mm	MSMA	S - C - T
TR	1659.70 ms	Sagittal	R >> L
TE	24 ms	Coronal	A >> P
Averages	1	Transversal	F >> H
Concatenations	1	Save uncombined	Off
Filter	None	Coil Combine Mode	Sum of Squares
Coil elements	B4;M2,3;T1	AutoAlign	
	, , ,	Auto Coil Select	Default
Contrast			
Perfusion mode	SS-SI VASO	Shim mode	Standard
TI2	900 ms	Adjust with body coil	Off
TI1	50 ms	Confirm freq. adjustment	Off
TI1s	50 ms	Assume Silicone	Off
Flip angle	30 deg	? Ref. amplitude 1H	0.000 V
Fat suppr.	Fat sat.	Adjustment Tolerance	Auto
Fat sat. mode	Strong	Adjust volume	rato
		Position	Isocenter
Averaging mode	Long term	Orientation	Transversal
Reconstruction	Magnitude	Rotation	
Measurements	5		120.00 deg
Delay in TR	0 ms	A >> P	99 mm
Multiple series	Off	R >> L	33 mm
	DICODE COT	. F >> H	18 mm
Perfusion mode	PICORE Q2T	Physio	
Inversion time 1	50 ms	1st Signal/Mode	None
Saturation stop time	50 ms	13t Olgital/Mode	110110
Inversion time 2	900.0 ms	BOLD	
Flow limit	100.0 cm/s	Motion correction	Off
Resolution		Spatial filter	Off
Base resolution	44	<u> </u>	
		Sequence	
Phase resolution	100 %	Introduction	On
Olina was altestana		Dimension	3D
Slice resolution	100 %		
Phase partial Fourier	6/8	Reordering	Linear
Phase partial Fourier Slice partial Fourier	6/8 Off		Linear 1
Phase partial Fourier	6/8	Reordering	

Echo spacing	1.08 ms
EPI factor RF pulse type Gradient mode Excitation RF spoiling	132 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 use CAIPI	100 150 3.1kHz 30 Off Off Off 1.00 3 s 0.00 mT/m*ms 2560 us 5.2 73 ms 16597 ms 10 local segm LIN->PAR Off
	EPI factor RF pulse type Gradient mode Excitation RF spoiling 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

\\USER\Feinberglab\Tanja\GRASE_VASO\VASO_118_150V					
TA: 2:44 PA	·				
Properties		PAT mode	GRAPPA		
Prio Recon	Off	- Accel. factor PE	2		
Before measurement		Ref. lines PE	24		
After measurement		Accel. factor 3D Ref. lines 3D	1		
Load to viewer	On		8 Separate		
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		Hamming	Off		
Auto open inline display	Off	Coomatrix			
Start measurement without	On	Geometry	lutada ayad		
further preparation		Multi-slice mode	Interleaved		
Wait for user to start	Off	Series	Ascending		
Start measurements	single	Special sat.	Parallel F		
Poutino	-	Gap	25.0 mm		
Routine Clab group 1		- Thickness	100 mm		
Slab group 1	4				
Slabs Dist. factor	1 50 %	Table position	H		
		Table position	0 mm		
Position	R65.4 P0.0 H4.0 Transversal	Inline Composing	Off		
Orientation	ransversai A >> P	System			
Phase enc. dir. Rotation			On		
Phase oversampling	30.00 deg 0 %	M2	On		
Slice oversampling	0.0 %	B4	On		
Slices per slab	10	M3	On		
FoV read	32.8 mm	V32	Off		
FoV read FoV phase	300.0 %	D '''	DEE		
Slice thickness	1.80 mm	Positioning mode	REF		
TR	2000.00 ms	MSMA	S - C - T		
TE	24 ms	Sagittal	R >> L		
Averages	1	Coronal	A >> P		
Concatenations	1	Transversal	F >> H		
Filter	None	Save uncombined	Off		
Coil elements	B4;M2,3;T1	Coil Combine Mode	Sum of Squares		
Con elements	D+,IVI2,3,1 1	AutoAlign	Default		
Contrast		Auto Coil Select	Default		
Perfusion mode	SS-SI VASO	Shim mode	Standard		
TI2	1200 ms	Adjust with body coil	Off		
TI1	50 ms	Confirm freq. adjustment	Off		
TI1s	50 ms	Assume Silicone	Off		
Flip angle	30 deg	! Ref. amplitude 1H	150.000 V		
Fat suppr.	Fat sat.	Adjustment Tolerance	Auto		
Fat sat. mode	Strong	Adjust volume			
Averaging mode	Long term	Position	R65.4 P0.0 H4.0		
Reconstruction	Magnitude	Orientation	Transversal		
Measurements	82	Rotation	120.00 deg		
Delay in TR	0 ms	A >> P	99 mm		
Multiple series	Off	R >> L	33 mm		
		F >> H	18 mm		
Perfusion mode	PICORE Q2T	Physio			
Inversion time 1	50 ms	1st Signal/Mode	None		
Saturation stop time	50 ms		. 10.10		
Inversion time 2	1200.0 ms	BOLD			
Flow limit	100.0 cm/s	Motion correction	Off		
Resolution		Spatial filter	Off		
Base resolution	44	Sequence			
Phase resolution	100 %	Introduction	On		
Slice resolution	100 %	Dimension	3D		
Phase partial Fourier	6/8	Reordering	Linear		
Slice partial Fourier	Off	Contrasts	1		
Interpolation	Off	Bandwidth	1042 Hz/Px		
		1	- · · · · ·		

Free echo spacing

Off

Echo spacing	1.08 ms
EPI factor RF pulse type Gradient mode Excitation RF spoiling	132 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 use CAIPI	100 150 3.1kHz 30 Off Off Off 1.00 3 s 0.00 mT/m*ms 2560 us 5.2 73 ms 20000 ms 10 local segm LIN->PAR
	EPI factor RF pulse type Gradient mode Excitation RF spoiling 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

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