Voxel size: 0.7x0.7x1.8 mm USER: VASO_118 TA: 2:44 PAT: 2 Rel. SNR: 1.00

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	0.11	Hamming	Off
Auto open inline display	Off	Training	Oli
Start measurement without	On	Geometry	
	OII	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 Table position	
Position	R41.0 P3.8 H20.2		0 mm
		Inline Composing	Off
Orientation	Transversal A >> P	System	
Phase enc. dir.		T1	On
Rotation	30.00 deg	M2	On
Phase oversampling	0 %	B4	On
Slice oversampling	0.0 %	M3	On
Slices per slab	10	V32	Off
FoV read	32.8 mm	V 32	OII
FoV phase	300.0 %	Positioning mode	REF
Slice thickness	1.80 mm	MSMA	S - C - T
TR	2000.00 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	
Coil elements	B4;M2,3;T1		Sum of Squares
Con cicinents	D+,IVI2,0,11	AutoAlign	D-fIt
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	230.000 V
Fat suppr.	Fat sat.	Adjustment Tolerance	Auto
Fat sat. mode	Strong		Auto
		Adjust volume	D44 0 D2 0 H20 2
Averaging mode	Long term	Position	R41.0 P3.8 H20.2
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		None
Saturation stop time	50 ms	1st Signal/Mode	NULLE
Inversion time 2	1200.0 ms	BOLD	
Flow limit	100.0 cm/s	Motion correction	Off
Pacalution		Spatial filter	Off
Resolution	44	_ '	-
	44	Sequence	
Base resolution			
Base resolution Phase resolution	100 %	Introduction	On
Base resolution Phase resolution Slice resolution	100 % 100 %	Introduction Dimension	On 3D
Base resolution Phase resolution Slice resolution Phase partial Fourier	100 %	Dimension	
Base resolution Phase resolution Slice resolution	100 % 100 %		3D
Base resolution Phase resolution Slice resolution Phase partial Fourier	100 % 100 % 6/8	Dimension Reordering	3D Linear

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 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

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TA: 5:24 PAT: Off Voxel size: 1.2×1.2×1.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V07_101320 Position L0.0 P0.0 H18.2 Properties Orientation Coronal Prio Recon Off Special sat. None Before measurement Table position After measurement Table position Load to viewer On 0 mm Inline movie Off Inline Composing Off Auto store images On System Load to stamp segments Off On T1 Load images to graphic Off M2 On segments В4 On Off Auto open inline display М3 On Start measurement without On V32 Off further preparation Wait for user to start Off Positioning mode REF Start measurements single S-C-T 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 L0.0 P0.0 H18.2 AutoAlign Orientation Transversal Auto Coil Select Default Phase enc. dir. A >> P 0.00 deg Rotation Shim mode Standard Phase oversampling 0 % Adjust with body coil Off 0.0 % Slice oversampling Confirm freq. adjustment Off Slices per slab Assume Silicone Off FoV read 150 mm ! Ref. amplitude 1H 230,000 V FoV phase 24.6 % Adjustment Tolerance Auto Slice thickness 1.0 mm Adjust volume TR 4000 ms Position L0.0 P0.0 H18.2 TE 40.3 ms Orientation Transversal **Averages** Rotation 0.00 deg Concatenations 150 mm R >> L Filter None A >> P 37 mm Coil elements B4;M2,3;T1 F >> H 8 mm Contrast Physio Magn. preparation Non-sel. IR 1st Signal/Mode None 1450 ms Composing Flip angle 180 deg Fat suppr. Fat sat. Sequence Fat sat. mode Strong Off Introduction Dimension 3D Averaging mode Long term Reordering Centric Reconstruction Magn./Phase Contrasts Measurements Bandwidth 1374 Hz/Px 0.0 sPause after meas. Echo spacing 1 ms Multiple series Off Turbo factor 5 Resolution EPI factor 32 Base resolution 130 RF pulse type Normal Phase resolution 100 % Gradient mode Fast 100 % Slice resolution Slice partial Fourier 5/8 flip angle excit 90 Interpolation Off phase encoding ON Maxwell compensation Off PAT mode None ICE program single Prescan Normalize Off prepscans 0 Raw filter Off Geometry Series Interleaved Sat. region 1

Thickness

40 mm

\\USER\Feinberglab\Tanja\20171013\BP_grase_clean_VASO_V08_func_10132017_1200
TA: 5:24 PAT: Off Voxel size: 1.2×1.2×1.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V08_101320

Properties		Position	L0.0 P0.0 H18.2
Prio Recon	Off	Orientation	Coronal
Before measurement		Special sat.	None
After measurement		Table position	Н
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments		M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation	.	V32	Off
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
	5.1.1g.15	Sagittal	R >> L
Routine		— Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Save uncombined	r >> n Off
Dist. factor	0 %	Coil Combine Mode	_
Position	L0.0 P0.0 H18.2		Adaptive Combine
Orientation	Transversal	AutoAlign Auto Coil Select	Default
Phase enc. dir.	A >> P	Auto Coll Select	Default
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	150 mm	! Ref. amplitude 1H	230.000 V
FoV phase	24.6 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	71010
TR	4000 ms	Position	L0.0 P0.0 H18.2
TE	41.2 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	150 mm
Filter	None	A >> P	37 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
	,,_,	1	O IIIIII
Contrast Magn. preparation	Non-sel. IR	Physio	None
TI	1200.0 ms	1st Signal/Mode	None
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	2	
Fat sat. mode	Strong	Sequence	2"
		Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	81	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1098 Hz/Px
Multiple series	Off	Echo spacing	1 ms
Resolution		Turbo factor	5
	120	EPI factor	32
Base resolution	130	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 %		
Slice partial Fourier	5/8	Phase skip	30
Interpolation	Off	Ampl	100
PAT mode	None	BWDTH	300 3.1kHz
		thickness	100
Prescan Normalize	Off	flip angle excit	90
Raw filter	Off	phase encoding	ON
Geometry		Maxwell compensation	Off
Series	Interleaved	— ICE program	single
GEHES	Interieaved	Phase skip	30
		· · · · · · · · · · · · · · · · · · ·	
Sat. region 1			

	\\USER\Feinb	erglab\Tanja\20171013\BP	_grase_clean_VASO_V07_T	T200_10132017
A: 4.0 s	PAT: Off Vox	el size: 1.2×1.2×1.0 mm R	el. SNR: 1.00 USER: BP_gr	ase_clean_VASO_V07_10132
Properties			Orientation Special sat.	Coronal None
Prio Rec	con	Off	— Opecial sat.	
Before m	neasurement		Table position	Н
After me	asurement		Table position	0 mm
Load to		On	Inline Composing	Off
Inline mo		Off	System	
	re images	On	T1	On
	stamp segments	Off	M2	On
	ages to graphic	Off	B4	On
segment			M3	On
	en inline display	Off	V32	Off
	asurement without	On		
	reparation		Positioning mode	FIX
	user to start	Off	MSMA	S - C - T
Start me	asurements	single	Sagittal	R >> L
Routine			Coronal	A >> P
Slab gro	un 1		Transversal	F >> H
Slabs	ир і	1	Save uncombined	Off
Dist. fa	actor	0 %	Coil Combine Mode	Adaptive Combine
Positio		L0.0 P0.0 H18.2	AutoAlign	
Orienta		Transversal	Auto Coil Select	Default
	enc. dir.	A >> P	Shim mode	Standard
Rotatio		0.00 deg		Off
	versampling	0.00 deg 0 %	Adjust with body coil Confirm freq. adjustment	Off
	ersampling	0.0 %	Assume Silicone	Off
Slices pe		8	! Ref. amplitude 1H	230.000 V
FoV read		150 mm	Adjustment Tolerance	Auto
FoV pha		24.6 %	Adjust volume	Auto
Slice thic		1.0 mm	Position	L0.0 P0.0 H18.2
TR	OKI 1000	4000 ms	Orientation	Transversal
TE		34.8 ms	Rotation	0.00 deg
Average	·s	1	R >> L	150 mm
Concate		1	A >> P	37 mm
Filter	riationio	None	F >> H	8 mm
Coil elen	nents	B4;M2,3;T1		O IIIIII
		_ 1,,0,1 :	Physio	
Contrast			1st Signal/Mode	None
	reparation	Non-sel. IR	Composing	
TI .		200 ms		
Flip angl		180 deg	Sequence	
Fat supp		Fat sat.	Introduction	Off
Fat sat. ı	mode	Strong	Dimension	3D
Averagin	na mode	Long term	Reordering	Centric
Reconst		Magn./Phase	Contrasts	2
Measure		1	Bandwidth	1424 Hz/Px

		Ocquerioc
Fat suppr.	Fat sat.	Introduction
Fat sat. mode	Strong	Dimension
Averaging mode Reconstruction Measurements Multiple series	Long term Magn./Phase 1 Off	Reordering Contrasts Bandwidth Echo spacing
Resolution		Turbo factor
Base resolution	130	EPI factor
Phase resolution	ion 100 %	RF pulse type
Slice resolution	100 %	Gradient mode
Slice partial Fourier	5/8	flip angle excit
Interpolation	Off	phase encoding
PAT mode	None	Maxwell compensation ICE program
Prescan Normalize	Off	prepscans
Raw filter	Off	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Geometry		

L0.0 P0.0 H18.2

Position

Slice resolution	100 %			
Slice partial Fourier	5/8	flip angle excit	90	
Interpolation	Off	phase encoding	ON	
PAT mode	None	Maxwell compensation	Off	
		ICE program	single	
Prescan Normalize	Off	prepscans	0	
Raw filter	Off	1 1 2 2 2 2	-	
Geometry				
Series	Interleaved			
Sat. region 1				
Thickness	40 mm			
1				

0.8 ms 5 32 Normal Fast

\\USER\Fein	berglab\Tanja\20171013\BP_	_grase_clean_VASO_V07_T	T700_10132017
TA: 4.0 s PAT: Off V	oxel size: 1.2×1.2×1.0 mm Re	el. SNR: 1.00 USER: BP_gr	ase_clean_VASO_V07_10132
Danastia		Orientation	Coronal
Properties	0"	Special sat.	None
Prio Recon	Off	T-51	
Before measurement After measurement		Table position	H 0 mm
Load to viewer	On	Table position Inline Composing	Off
Inline movie	Off	I milite Composing	Oli
Auto store images	On	System	
Load to stamp segments	Off	T1	On
Load images to graphic	Off	M2	On
segments	On	B4	On
Auto open inline display	Off	M3	On
Start measurement without		V32	Off
further preparation		Positioning mode	FIX
Wait for user to start	Off	MSMA	S-C-T
Start measurements	single	Sagittal	R >> L
	og.o	Coronal	A >> P
Routine		Transversal	F >> H
Slab group 1		Save uncombined	Off
Slabs	1	Coil Combine Mode	Adaptive Combine
Dist. factor	0 %	AutoAlign	
Position	L0.0 P0.0 H18.2	Auto Coil Select	Default
Orientation	Transversal		
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 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	230.000 V
FoV read	150 mm	Adjustment Tolerance	Auto
FoV phase	24.6 %	Adjust volume	100 000 01110 0
Slice thickness TR	1.0 mm 4000 ms	Position	L0.0 P0.0 H18.2
TE	34.8 ms	Orientation	Transversal
	34.6 IIIS 1	Rotation	0.00 deg
Averages Concatenations	1	R >> L	150 mm
Filter	None	A >> P	37 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
	D+,1V12,3,1 1	Physio	
Contrast		1st Signal/Mode	None
Magn. preparation	Non-sel. IR	Composing	
TI	700 ms	Composing	
Flip angle	180 deg	Sequence	
Fat suppr.	Fat sat.	Introduction	Off
Fat sat. mode	Strong	Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction	Magn./Phase	Contrasts	2
Measurements	1	Bandwidth	1424 Hz/Px
Multiple series	Off	Echo spacing	0.8 ms
•		Turbo factor	<u>.</u>
Resolution		— EDI factor	5

11	700 ms			
Flip angle Fat suppr. Fat sat. mode	180 deg Fat sat. Strong	Sequence Introduction Dimension	Off 3D	
Averaging mode Reconstruction Measurements Multiple series	Long term Magn./Phase 1 Off	Reordering Contrasts Bandwidth Echo spacing	Centric 2 1424 Hz/Px 0.8 ms	
Resolution Base resolution Phase resolution Slice resolution	130 100 % 100 %	Turbo factor EPI factor RF pulse type Gradient mode	5 32 Normal Fast	
Slice partial Fourier Interpolation	5/8 Off	flip angle excit phase encoding	90 ON	
PAT mode	None	Maxwell compensation ICE program	Off single	
Prescan Normalize Raw filter	Off Off	prepscans	0	
Geometry				
Series	Interleaved			
Sat. region 1 Thickness	40 mm			

Position

L0.0 P0.0 H18.2

\\USER\Feinbe	rglab\Tanja\20171013\BP_	grase_clean_VASO_V07_TI	1000_10132017
ΓA: 4.0 s PAT: Off Vox	el size: 1.2×1.2×1.0 mm Re	I. SNR: 1.00 USER: BP_gr	ase_clean_VASO_V07_10132
Properties		Orientation	Coronal
Prio Recon	Off	Special sat.	None
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 T1	05
Load to stamp segments	Off	M2	On On
Load images to graphic	Off	B4	On
segments		M3	On
Auto open inline display	Off	V32	Off
Start measurement without	On		
further preparation	0"	Positioning mode	FIX
Wait for user to start	Off	MSMA	S - C - T
Start measurements	single	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1		 Transversal Save uncombined 	F >> H
Slabs	1		Off
Dist. factor	0 %	Coil Combine Mode AutoAlign	Adaptive Combine
Position	L0.0 P0.0 H18.2	Auto Coil Select	Default
Orientation	Transversal		
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 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	230.000 V
FoV read	150 mm	Adjustment Tolerance	Auto
FoV phase	24.6 %	Adjust volume	
Slice thickness	1.0 mm 4000 ms	Position	L0.0 P0.0 H18.2
TR TE	34.8 ms	Orientation	Transversal
Averages	1	Rotation R >> L	0.00 deg 150 mm
Concatenations	1	A >> P	37 mm
Filter	None	F >> H	8 mm
Coil elements	B4;M2,3;T1	ļ	0 111111
_	_ ·,···_,•, · ·	Physio	
Contrast		1st Signal/Mode	None
Magn. preparation	Non-sel. IR	Composing	
TI Flip and a	1000 ms 180 deg		
Flip angle Fat suppr.	Fat sat.	Sequence	
Fat suppr. Fat sat. mode	Strong	Introduction	Off
rat sat. mode	Strong	Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction	Magn./Phase	Contrasts Bandwidth	2 1424 Hz/Px
Measurements	1		1424 H2/PX 0.8 ms
Multiple series	Off	Echo spacing	0.0 1115
Resolution		Turbo factor	5
Base resolution	130	EPI factor	32
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	flip angle excit	90
Interpolation	Off	phase encoding	ON
	None	Maxwell compensation	Off
PAT mode	None	ICE program	single
Prescan Normalize	Off	prepscans	0
Raw filter	Off	I i i i i i i i i i i i i i i i i i i i	
Coomotry			
Geometry Series	Interleaved	<u> </u>	

Interleaved

L0.0 P0.0 H18.2

40 mm

Series

Sat. region 1 Thickness

Position

\USER\Feinberglab\Tanja\20171013\BP_grase_clean_VASO_V07_TI1400_10132017 TA: 4.0 s PAT: Off Voxel size: 1.2×1.2×1.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V07_101320 Orientation Coronal Properties Special sat. None Prio Recon Off Table position Н Before measurement After measurement Table position 0 mm Inline Composing Load to viewer On Off Inline movie Off System Auto store images On On Load to stamp segments Off M2 On Load images to graphic Off B4 On segments М3 On Off Auto open inline display V32 Off Start measurement without On further preparation Positioning mode FIX Wait for user to start Off **MSMA** S-C-T Start measurements single Sagittal R >> L Coronal A >> P Routine Transversal F >> H Slab group 1 Save uncombined Off Slabs 1 Coil Combine Mode Adaptive Combine Dist. factor 0 % AutoAlian Position L0.0 P0.0 H18.2 Auto Coil Select Default Orientation Transversal Phase enc. dir. A >> P Shim mode Standard 0.00 deg Rotation Adjust with body coil Off Phase oversampling 0 % Confirm freq. adjustment Off 0.0 % Slice oversampling Assume Silicone Off Slices per slab ! Ref. amplitude 1H 230.000 V FoV read 150 mm Adjustment Tolerance Auto FoV phase 24.6 % Adjust volume Slice thickness 1.0 mm Position L0.0 P0.0 H18.2 TR 4000 ms Orientation Transversal TE 34.8 ms Rotation 0.00 deg **Averages** 1 R >> L 150 mm Concatenations A >> P 37 mm Filter None F >> H 8 mm Coil elements B4;M2,3;T1 Contrast 1st Signal/Mode None Magn. preparation Non-sel. IR Composing 1400 ms Flip angle 180 deg Sequence Fat suppr. Fat sat. Introduction Off Fat sat. mode Strong Dimension 3D Reordering Centric Averaging mode Long term Contrasts 2 Reconstruction Magn./Phase Bandwidth 1424 Hz/Px Measurements Echo spacing 0.8 ms Off Multiple series Turbo factor 5 Resolution EPI factor 32 Base resolution 130 RF pulse type Normal Phase resolution 100 % Gradient mode Fast Slice resolution 100 % Slice partial Fourier 5/8 flip angle excit 90 Interpolation Off phase encoding ON Maxwell compensation Off PAT mode None ICE program single Prescan Normalize Off prepscans Raw filter Off Geometry Series Interleaved Sat. region 1

Thickness

Position

40 mm

L0.0 P0.0 H18.2

Prio Recon Before measurement After measurement Load to viewer On Inline movie Or Inline Major Or Inline	Properties		Special sat.	None
Bafore measurement Load to viewer Con Infiline Composing Off		Off	Table position	Н
After measurement Load to viewer On Inline Composing Off				
Load to viewer				-
In the Hove	Load to viewer	On		
Auto store images	Inline movie	_		
Load to stamp segments		_		
Load images to graphic segments				_
Segments				_
Auto open inline display Off L5				_
Start measurement without further preparation LF On LB On CF CF CF CF CF CF CF C		Off		
Continue		_		_
Wait for user to start Start measurements Single Start measurements Single Positioning mode FIX Stagittal R > L Coronal A > P Transversal F > H Coronal A > P Transversal Transv		.		
Salart measurements		Off	L8	On
Noutine			Positioning mode	FIX
Silice group 1	ı	3 -		
Silice S			_	
Sices				
Dist. Tactor				
Position Net				
Phase enc. dir. A >> P Rotation 0.00 deg Shim mode Standard Aljust with body coil Off				·
Phase encountries A S F				Default
Phase oversampling				
FoV read				
FoV phase				_
Slice thickness				_
TR	·			_
TE				120.000 V
Multi-band accel. factor				Auto
Filter				
Coil elements L1-8 I Rotation 172 mm Contrast I R> L 172 mm MTC Off I R>> L 172 mm Magn, preparation None I F> H 45 mm Flip angle 55 deg Physio Fat suppr. Fat sat. Test st. Test st. Averaging mode Long term BOLD Reconstruction Magnitude GLM Statistics Off Measurements 20 Dynamic t-maps Off Delay in TR 0 ms Starting ignore meas 0 Multiple series Off Ignore after transition 0 Resolution 164 Temp. highpass filter On Phase resolution 164 Threshold 4.00 Phase partial Fourier 5/8 Measing size 20 Paradigm size 20 Paradigm size 20 PAT mode GRAPPA Meas[3] Baseline Accel, factor PE 2 Meas[4] Baseline Reference s		-		
R >> L				
A >> P	Coil elements	L1-8		•
MIC Off ! F >> H 45 mm Magn. preparation None ! F >> H 45 mm Flip angle 55 deg Physio Fat suppr. Fat sat. 1st Signal/Mode None Averaging mode Long term BOLD None Reconstruction Magnitude GLM Statistics Off Measurements 20 Dynamic 1-maps Off Delay in TR 0 ms Starting ignore meas 0 Multiple series Off Ignore after transition 0 Model transition states On Temp. highpass filter On Phase resolution 100 % Paradigm size 20 Phase partial Fourier 5/8 Paradigm size 20 PAT mode GRAPPA Meas[1] Baseline Accel. factor PE 2 Meas[4] Baseline Accel. factor PE 2 Meas[4] Baseline Reference scan mode GRE Meas[6] Baseline Distortion Corr. Off </td <td>Contrast</td> <td></td> <td></td> <td></td>	Contrast			
Magn. preparation None ! F >> H 45 mm Filip angle 55 deg Physio Fat suppr. Fat sat. 1st Signal/Mode None Averaging mode Long term BOLD Reconstruction Magnitude GLM Statistics Off Measurements 20 Dynamic t-maps Off Delay in TR 0 ms Starting ignore meas 0 Multiple series Off Ignore after transition 0 Model transition states On Termp. highpass filter On Phase resolution 164 Threshold 4.00 Phase partial Fourier 5/8 Paradigm size 20 Interpolation Off Meas[1] Baseline Meas[2] Baseline Meas[2] Baseline Accel. factor PE 2 Meas[3] Baseline Reference scan mode GRE Meas[6] Baseline Distortion Corr. Off Meas[7] Baseline Raw filter On	MTC	Off		
Filip angle 55 deg			!F>> H	45 mm
Fat suppr. Fat sat. Sit Signal/Mode None		55 deg	Physio	
Averaging mode Reconstruction Magnitude Reconstruction Magnitude Measurements 20 Delay in TR O ms Multiple series Off Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Reference scan mode Reference scan Normalize Prescan Normalize Prescan Normalize Raw filter On Resolution Off Model transition states On Temp. highpass filter On Threshold Threshold 4.00 Paradigm size 20 Meas[1] Meas[2] Baseline Meas[2] Baseline Meas[3] Baseline Meas[4] Baseline Meas[6] Baseline Meas[7] Baseline Meas[7] Baseline Meas[7] Baseline Meas[7] Baseline Meas[7] Baseline Meas[8] Baseline Meas[9] Baseline Meas[10] Baseline Meas[11] Meas[11] Meas[11] Meas[12] Active Meas[13] Active Meas[14] Meas[15] Active Meas[16] Meas[16] Active				None
Reconstruction Magnitude Measurements 20 Delay in TR 0 ms Starting ignore meas 0 Multiple series Off Ignore after transition 0 Model transition states On Temp. highpass filter On Threshold 4.00 Phase resolution 100 % Phase partial Fourier 5/8 Meas[1] Baseline Meas[2] Baseline Meas[3] Baseline Meas[4] Baseline Meas[6] Baseline Meas[7] Baseline Meas[7] Baseline Meas[8] Baseline Meas[9] Baseline Meas[1] Baseline Meas[7] Baseline Meas[7] Baseline Meas[8] Baseline Meas[9] Baseline Meas[1] Active Meas[16]			-	
Measurements Delay in TR Multiple series20Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Phase partial Fourier Interpolation164 100 % Phase partial Fourier Interpolation164 100 % Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[9] Meas[9] Meas[11] Meas[11] Meas[9] Meas[12] Meas[12] Meas[13] Meas[13] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17] Meas[18] Meas[18] Meas[19] Meas[11] Meas[11] Meas[11] Meas[12] Meas[12] Meas[13] Meas[14] Meas[14] Meas[15] Meas[16] Meas[16] Meas[16] Meas[16] Meas[16] Meas[16] Meas[16] Meas[16] Meas[16] Meas[16] Meas[16] Meas[16] Meas[16]Off Meas[16] Meas[16] Meas[16] Meas[16]	0 0			
Delay in TR Multiple series Off Resolution Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Reference scan mode Reference scan mode Distortion Corr. Coff Raw filter Acm filter Acm filter Con Meas[1] Meas[3] Baseline Meas[4] Baseline Meas[5] Baseline Meas[6] Baseline Meas[7] Baseline Meas[8] Baseline Meas[8] Baseline Meas[9] Baseline Meas[1] Meas[1] Meas[1] Meas[1] Meas[1] Meas[1] Active Meas[1] Moas[1] Meas[1] Meas[1] Moas[1] Mo				
Ignore after transition O				
Resolution Base resolution 164 Threshold 4.00	<u> </u>			-
Base resolution 164 Phase resolution 100 % Phase partial Fourier 5/8 Interpolation Off Meas[1] Baseline PAT mode GRAPPA Meas[3] Baseline Accel. factor PE 2 Ref. lines PE 56 Meas[5] Baseline Reference scan mode GRE Meas[6] Baseline Distortion Corr. Off Meas[8] Baseline Prescan Normalize Off Meas[9] Baseline Raw filter On Elliptical filter Off Hamming Off Meas[11] Active Meas[12] Active Meas[1] Baseline Meas[3] Baseline Meas[6] Baseline Meas[7] Baseline Meas[8] Baseline Meas[9] Baseline Meas[10] Baseline Meas[11] Active Meas[11] Active Meas[12] Active Meas[12] Active Meas[13] Active Meas[14] Active Meas[15] Active Meas[15] Active	Multiple series	Oli		
Phase resolution 100 % Phase partial Fourier 5/8 Interpolation Off Meas[1] Baseline PAT mode GRAPPA Meas[3] Baseline Ref. lines PE 2 Meas[4] Baseline Reference scan mode GRE Meas[6] Baseline Distortion Corr. Off Meas[8] Baseline Raw filter On Elliptical filter Off Hamming Off Meas[11] Active Geometry Meas[12] Active Meas[1] Baseline Meas[1] Active	Resolution			
Phase resolution Phase partial Fourier Interpolation Off Meas[1] Meas[2] Baseline Meas[2] Baseline Meas[3] Baseline Meas[4] Baseline Meas[6] Reference scan mode GRE Distortion Corr. Prescan Normalize Raw filter Raw filter Bliptical filter Hamming Off Meas[1] Meas[3] Baseline Meas[6] Meas[7] Meas[7] Meas[8] Meas[9] Meas[9] Baseline Meas[10] Meas[11] Meas[11] Meas[12] Meas[12] Meas[12] Meas[13] Meas[14] Meas[14] Meas[15] Meas[16] Meas[16] Meas[16]	Base resolution	164		
Interpolation Off Meas[1] Baseline PAT mode GRAPPA Meas[3] Baseline Accel. factor PE 2 Meas[4] Baseline Ref. lines PE 56 Meas[5] Baseline Reference scan mode GRE Meas[6] Baseline Distortion Corr. Off Meas[8] Baseline Prescan Normalize Off Meas[8] Baseline Raw filter On Meas[9] Baseline Elliptical filter Off Meas[10] Baseline Meas[11] Meas[10] Baseline Meas[11] Meas[10] Baseline Meas[12] Active Meas[13] Active Meas[14] Active Meas[15] Active Meas[15] Active Meas[16] Active		100 %		
Interpolation Off Meas[1] Baseline PAT mode GRAPPA Meas[3] Baseline Accel. factor PE 2 Meas[4] Baseline Ref. lines PE 56 Meas[5] Baseline Reference scan mode GRE Meas[6] Baseline Distortion Corr. Off Meas[7] Baseline Prescan Normalize Off Meas[8] Baseline Raw filter On Meas[9] Baseline Elliptical filter Off Meas[10] Baseline Hamming Off Meas[11] Active Geometry Meas[13] Active Multi-slice mode Interleaved Meas[15] Active Meas[16] Meas[16] Active	Phase partial Fourier	5/8		
PAT mode GRAPPA Meas[3] Baseline Accel. factor PE 2 Meas[4] Baseline Ref. lines PE 56 Meas[5] Baseline Reference scan mode GRE Meas[6] Baseline Distortion Corr. Off Meas[7] Baseline Prescan Normalize Off Meas[8] Baseline Raw filter On Meas[9] Baseline Baseline Meas[1] Baseline		Off		
Accel. factor PE 2 Ref. lines PE 56 Reference scan mode GRE Distortion Corr. Off Prescan Normalize Off Raw filter On Elliptical filter Off Hamming Off Geometry Meas[1] Meas[4] Meas[5] Meas[6] Meas[6] Meas[7] Meas[7] Meas[8] Meas[8] Meas[9] Meas[9] Meas[10] Meas[10] Meas[11] Meas[11] Meas[12] Active Meas[13] Active Meas[14] Meas[14] Active Meas[15] Meas[15] Active Meas[16] Meas[16]		OD 4 DD 4		
Ref. lines PE 56				
Reference scan mode GRE Meas[6] Baseline Distortion Corr. Off Meas[8] Baseline Prescan Normalize Off Meas[9] Baseline Raw filter On Meas[10] Baseline Elliptical filter Off Meas[11] Active Hamming Off Meas[12] Active Geometry Meas[13] Active Multi-slice mode Interleaved Meas[15] Active Series Interleaved Meas[16] Active				
Distortion Corr. Off Prescan Normalize Off Raw filter On Elliptical filter Off Hamming Off Geometry Meas[7] Meas[8] Meas[9] Meas[9] Meas[10] Meas[10] Meas[11] Meas[11] Meas[12] Meas[12] Meas[12] Meas[13] Active Meas[13] Meas[14] Meas[15] Meas[15] Meas[16] Meas[16] Meas[16] Meas[17] Meas[17] Meas[18] Meas[10] Meas[10] Meas[11] Meas[12] Meas[12] Meas[13] Active Meas[14] Meas[15] Active				
Distortion Corr. Prescan Normalize Raw filter Con Elliptical filter Hamming Off Geometry Meas[10] Meas[10] Meas[10] Meas[11] Meas[11] Meas[11] Meas[12] Meas[12] Meas[13] Meas[13] Active Meas[13] Meas[14] Meas[15] Meas[15] Meas[16] Me	Reference scan mode	GKE		
Prescan Normalize Off Raw filter On Meas[9] Baseline Elliptical filter Off Meas[10] Baseline Hamming Off Meas[11] Active Geometry Meas[12] Active Meas[13] Active Meas[14] Active Series Interleaved Meas[15] Active Meas[16] Meas[16]	Distortion Corr.	Off		
Raw filter On Meas[9] Baseline Meas[10] Baseline Meas[10] Baseline Meas[11] Active Meas[12] Active Meas[12] Active Meas[13] Active Meas[13] Active Meas[14] Active Meas[14] Active Meas[15] Active Meas[15] Active Meas[16] Active Meas[16] Active				
Elliptical filter Off Meas[10] Meas[10] Active Meas[11] Active Geometry Meas[12] Active Meas[12] Meas[12] Active Meas[13] Active Meas[14] Active Meas[14] Active Meas[15] Active Meas[15] Active Meas[16] Active		_		
Hamming Off Meas[17] Active Geometry Meas[13] Active Multi-slice mode Interleaved Meas[14] Active Series Interleaved Meas[15] Active Meas[15] Active Meas[16] Active				
Geometry Meas[12] Active Meas[13] Active Meas[13] Active Meas[14] Active Meas[14] Active Meas[15] Active Meas[15] Active Meas[16] Active	•			
Multi-slice modeInterleavedMeas[14]ActiveSeriesInterleavedMeas[15]ActiveMeas[16]Active				
Series Interleaved Meas[15] Active Meas[16] Active	•	lated a second		
Meas[16] Active				
l	Series	ınterieavea		
			Meas[16]	ACUVE

Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off

Sequence	
Introduction Bandwidth	Off 1452 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	0.83 ms
SIR accel. factor	1
EPI factor	164
Gradient mode	Normal
RF spoiling	Off
Excite pulse duration	5820 us
Slice multiplier Multi-band PE shift	1 0 1/FoV
zBlip scheme	0
MB kernel size	0
MB knockout band	0
No. of interleaved TEs	0
RF pulse shape EPI noise scans	1
EPI noise scans EPI full reference scan	0
Single-band images	On
MB RF phase scramble	Off
SENSE1 coil combine	Off
Log physiology to file	Off
Invert RO/PE polarity Save reduced raw data	Off Off
Readout slice trace	Off
Disable ramp sampling	Off
PF omits higher k-space	Off
Online multi-band recon.	Online
FFT scale factor	0.20
GRE iPAT ref. FA Send B1 shim trigger	12.0 deg Never
Triggering scheme	Standard
Starting ignore meas	0
Paradigm size	2
Multiplier	1
Step [1]	1
Step [2]	0

\\IIQER\Eoinh	arglah\Tania\20171023\E	BP_grase_clean_VASO_V07_T	1200 10132017
	el size: 1.2×1.2×1.0 mm	-	ase_clean_VASO_V07_101320
		Orientation	Coronal
Properties		Special sat.	None
Prio Recon	Off		
Before measurement		Table position	Н
After measurement		Table position	0 mm
Load to viewer Inline movie	On Off	Inline Composing	Off
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 O"
Start measurement without	On	V32	Off
further preparation		Positioning mode	FIX
Wait for user to start	Off	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	L0.0 P0.0 H18.2	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 deg	Adjust with body coil	Off
		Confirm freq. adjustment	Off
Slice oversampling	1 0		Off
Slices per slab	8	! Ref. amplitude 1H	230.000 V
FoV read	150 mm	Adjustment Tolerance	Auto
FoV phase	24.6 %	Adjust volume	
Slice thickness	1.0 mm	Position	L0.0 P0.0 H18.2
TR	4000 ms	Orientation	Transversal
TE	34.8 ms	Rotation	0.00 deg
Averages	1	R >> L	150 mm
Concatenations	1	A >> P	37 mm
Filter	None	F >> H	8 mm
Coil elements	B4;M2,3;T1	Physio	
Contrast		1st Signal/Mode	None
Magn. preparation	Non-sel. IR	TSt Signal/Mode	None
TI	200 ms	Composing	
Flip angle	180 deg	Sequence	
Fat suppr.	Fat sat.	Introduction	Off
Fat sat. mode	Strong	Dimension	3D
Λ		Reordering	Centric
Averaging mode	Long term	Contrasts	2
Reconstruction	Magn./Phase	Bandwidth	_ 1424 Hz/Px
Measurements Multiple series	1 Off	Echo spacing	0.8 ms
Multiple series	Oli		
Resolution		Turbo factor	5
Base resolution	130	EPI factor	32 Normal
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	flip angle excit	90
Interpolation	Off	phase encoding	ON
PAT mode	None	Maxwell compensation	Off
1 71 IIIOG		ICE program	single
Prescan Normalize	Off	prepscans	0
Raw filter	Off	•	

Interleaved

L0.0 P0.0 H18.2

40 mm

Geometry Series

> Sat. region 1 Thickness

Position

\\USER\Feinb	erglab\Tanja\20171023\E	BP_grase_clean_VASO_V07_T	TI500_10132017
	xel size: 1.2×1.2×1.0 mm	_	ase_clean_VASO_V07_101320
Properties		Orientation	Coronal
Prio Recon	Off	Special sat.	None
Before measurement	Oli	Table position	Н
After measurement		Table position	0 mm
Load to viewer	On	Inline Composing	Off
Inline movie	Off	I milite Composing	Oli
Auto store images	On	System	
Load to stamp segments	Off	T1	On
Load images to graphic	Off	M2	On
segments	Oli	B4	On
Auto open inline display	Off	M3	On
Start measurement without		V32	Off
	On		
further preparation	Off	Positioning mode	FIX
Wait for user to start		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	L0.0 P0.0 H18.2	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 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	230.000 V
FoV read	150 mm	Adjustment Tolerance	Auto
FoV phase	24.6 %	Adjust volume	Auto
Slice thickness	1.0 mm	Position	L0.0 P0.0 H18.2
TR	4000 ms	Orientation	Transversal
TE	34.8 ms	Rotation	0.00 deg
Averages	1	Rotation R >> L	150 mm
Concatenations	1	A >> P	37 mm
Filter	None	F >> H	
Coil elements	B4;M2,3;T1	г>>п	8 mm
Con elements	D+,1V12,0,1 1	Physio	
Contrast		1st Signal/Mode	None
Magn. preparation	Non-sel. IR	Commonina	
TI	500 ms	Composing	
Flip angle	180 deg	Sequence	
Fat suppr.	Fat sat.	Introduction	Off
Fat sat. mode	Strong	Dimension	3D
A		Reordering	Centric
Averaging mode	Long term	Contrasts	2
Reconstruction	Magn./Phase	Bandwidth	1424 Hz/Px
Measurements	1	Echo spacing	0.8 ms
Multiple series	Off		
Resolution		Turbo factor	5
Base resolution	130	EPI factor	32
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	flip angle evoit	90
Interpolation	Off	flip angle excit	
	<u> </u>	phase encoding	ON Off
PAT mode	None	Maxwell compensation	
Prescan Normalize	Off	ICE program	single
i iestali indililalize	UII	prepscans	0

Sat. region 1	
Thickness	40 mm
Position	L0.0 P0.0 H18.2

Off

Off

Interleaved

Prescan Normalize

Raw filter

Geometry

Series

prepscans

\\USER\Feinbe	erglab\Tanja\20171023\l	BP_grase_clean_VASO_V07_T	T700_10132017
	el size: 1.2×1.2×1.0 mm	-	ase_clean_VASO_V07_101320
Properties		Orientation	Coronal
Prio Recon	Off	Special sat.	None
Before measurement	Oii	Table position	H
After measurement		Table position Table position	0 mm
Load to viewer	On	Inline Composing	Off
Inline movie	Off		Oli
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		Positioning mode	FIX
Wait for user to start	Off	MSMA	S - C - T
Start measurements	single	Sagittal	R >> L
Routine	•	Coronal	A >> P
		Transversal	F >> H
Slab group 1	4	Save uncombined	Off
Slabs Dist. factor	1 0 %	Coil Combine Mode	Adaptive Combine
Position	L0.0 P0.0 H18.2	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Chim made	Ctondond
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0.00 deg 0 %	Adjust with body coil Confirm freq. adjustment	Off Off
Slice oversampling	0.0 %	Assume Silicone	Off
Slices per slab	8	! Ref. amplitude 1H	230.000 V
FoV read	150 mm	Adjustment Tolerance	Auto
FoV phase	24.6 %	Adjust volume	Auto
Slice thickness	1.0 mm	Position	L0.0 P0.0 H18.2
TR	4000 ms	Orientation	Transversal
TE	34.8 ms	Rotation	0.00 deg
Averages	1	R >> L	150 mm
Concatenations	1	A >> P	37 mm
Filter	None	F >> H	8 mm
Coil elements	B4;M2,3;T1		
Contract		Physio	N
Contrast	Non-sel. IR	1st Signal/Mode	None
Magn. preparation TI	700 ms	Composing	
Flip angle	180 deg	Common	
Fat suppr.	Fat sat.	Sequence	0"
Fat sat. mode	Strong	Introduction	Off
		Dimension	3D Contrin
Averaging mode	Long term	Reordering Contrasts	Centric 2
Reconstruction	Magn./Phase	Bandwidth	2 1424 Hz/Px
Measurements	1		0.8 ms
Multiple series	Off	Echo spacing	0.6 IIIS
Resolution		Turbo factor	5
Base resolution	130	EPI factor	32
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	flip angle excit	90
Interpolation	Off	phase encoding	ON SO
	-	Maxwell compensation	Off
PAT mode	None	ICE program	single
Prescan Normalize	Off	prepscans	0
Raw filter	Off	propodano	J

1	2	16	E

Interleaved

L0.0 P0.0 H18.2

40 mm

Sat. region 1 Thickness

Position

Geometry Series

\USER\Feinberglab\Tanja\20171023\BP_grase_clean_VASO_V07_TI1000_10132017

TA: 4.0 s PAT: Off Voxel size: 1.2×1.2×1.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V07_101320 Orientation Coronal Properties Special sat. None Prio Recon Off Table position Н Before measurement After measurement Table position 0 mm Inline Composing Load to viewer On Off Inline movie Off System Auto store images On On Load to stamp segments Off M2 On Load images to graphic Off B4 On segments М3 On Off Auto open inline display V32 Off Start measurement without On further preparation Positioning mode FIX Wait for user to start Off **MSMA** S-C-T Start measurements single Sagittal R >> L Coronal A >> P Routine Transversal F >> H Slab group 1 Save uncombined Off Slabs 1 Coil Combine Mode Adaptive Combine Dist. factor 0 % AutoAlian Position L0.0 P0.0 H18.2 Auto Coil Select Default Orientation Transversal Phase enc. dir. A >> P Shim mode Standard 0.00 deg Rotation Adjust with body coil Off Phase oversampling 0 % Confirm freq. adjustment Off 0.0 % Slice oversampling Assume Silicone Off Slices per slab ! Ref. amplitude 1H 230.000 V FoV read 150 mm Adjustment Tolerance Auto FoV phase 24.6 % Adjust volume Slice thickness 1.0 mm Position L0.0 P0.0 H18.2 TR 4000 ms Orientation Transversal TE 34.8 ms Rotation 0.00 deg **Averages** 1 R >> L 150 mm Concatenations A >> P 37 mm Filter None F >> H 8 mm Coil elements B4;M2,3;T1 Contrast 1st Signal/Mode None Magn. preparation Non-sel. IR Composing 1000 ms Flip angle 180 deg Sequence Fat suppr. Fat sat. Introduction Off Fat sat. mode Strong Dimension 3D Reordering Centric Averaging mode Long term Contrasts 2 Reconstruction Magn./Phase Bandwidth 1424 Hz/Px Measurements Echo spacing 0.8 ms Off Multiple series Turbo factor 5 Resolution EPI factor 32 Base resolution 130 RF pulse type Normal Phase resolution 100 % Gradient mode Fast Slice resolution 100 % Slice partial Fourier 5/8 flip angle excit 90 Interpolation Off phase encoding ON Maxwell compensation Off PAT mode None ICE program single Prescan Normalize Off prepscans Raw filter Off Geometry Series Interleaved Sat. region 1 **Thickness** 40 mm

L0.0 P0.0 H18.2

Position

	el size: 1.2×1.2×1.0 mm	BP_grase_clean_VASO_V07_T Rel. SNR: 1.00 USER: BP_gr	rase_clean_VASO_V07_10132
		Orientation	Coronal
Properties		Special sat.	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	T1	On
Load to stamp segments	Off	M2	On
Load images to graphic	Off	B4	On
segments	0"	M3	On
Auto open inline display	Off	V32	Off
Start measurement without	On		
further preparation	Off	Positioning mode	FIX
Wait for user to start Start measurements		MSMA	S-C-T
Start measurements	single	Sagittal	R >> L
Routine		Coronal	A >> P F >> H
Slab group 1		Transversal	
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode AutoAlign	Adaptive Combine
Position	L0.0 P0.0 H18.2	Auto Coil Select	Default
Orientation	Transversal	Auto Coli Select	Delauli
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 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	230.000 V
FoV read 150 mm		Adjustment Tolerance	Auto
FoV phase	24.6 %	Adjust volume	
Slice thickness	1.0 mm	Position	L0.0 P0.0 H18.2
TR	4000 ms	Orientation	Transversal
TE	34.8 ms	Rotation	0.00 deg
Averages	1	R >> L	150 mm
Concatenations	1	A >> P	37 mm
Filter	None	F >> H	8 mm
Coil elements	B4;M2,3;T1	Physio	
Contrast		1st Signal/Mode	None
Magn. preparation	Non-sel. IR		
TI	1200 ms	Composing	
Flip angle	180 deg	Sequence	
Fat suppr.	Fat sat.	Introduction	Off
Fat sat. mode	Strong	Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction	Magn./Phase	Contrasts	2
Measurements	1	Bandwidth	1424 Hz/Px
Multiple series	Off	Echo spacing	0.8 ms
•	•	Turbo factor	5
Resolution	100	EPI factor	32
Base resolution	130	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 %		
Slice partial Fourier	5/8 Off	flip angle excit	90
Interpolation	Off	phase encoding	ON
PAT mode	None	Maxwell compensation	Off
Dragge Narmalina	O#	ICE program	single
Prescan Normalize Raw filter	Off Off	prepscans	0
Geometry			
Series	Interleaved		
Sat. region 1			
Thickness	40 mm		

Thickness

Position

40 mm

L0.0 P0.0 H18.2

A: 4.0 s PAT: Off Vox	el size: 1.2×1.2×1.0 mm	Rel. SNR: 1.00 USER: BP_gr	ase_clean_VASO_V07_1013
		Orientation	Coronal
Properties		Special sat.	None
Prio Recon	Off		
Before measurement		Table position	H
After measurement		Table position	0 mm
Load to viewer	On	Inline Composing	Off
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		
further preparation		Positioning mode	FIX
Wait for user to start	Off	MSMA	S - C - T
Start measurements	single	Sagittal	R >> L
Routine		Coronal	A >> P
		Transversal	F >> H
Slab group 1	1	Save uncombined	Off
Slabs Dist. factor	1	Coil Combine Mode	Adaptive Combine
	0 %	AutoAlign	
Position	L0.0 P0.0 H18.2	Auto Coil Select	Default
Orientation	Transversal		
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 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	230.000 V
FoV read	150 mm	Adjustment Tolerance	Auto
FoV phase	24.6 %	Adjust volume	
Slice thickness	1.0 mm	Position	L0.0 P0.0 H18.2
TR	4000 ms	Orientation	Transversal
TE	34.8 ms	Rotation	0.00 deg
Averages	1	R >> L	150 mm
Concatenations	1	A >> P	37 mm
Filter	None	F >> H	8 mm
Coil elements	B4;M2,3;T1	Dharaia	
Contract		Physio 1/14	N.
Contrast	Non-sel. IR	1st Signal/Mode	None
Magn. preparation	1400 ms	Composing	
TI			
Flip angle	180 deg	Sequence	
Fat suppr.	Fat sat.	Introduction	Off
Fat sat. mode	Strong	Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction	Magn./Phase	Contrasts	2
Measurements	1	Bandwidth	1424 Hz/Px
Multiple series	Off	Echo spacing	0.8 ms
•		Turbo factor	5
Resolution	100	EPI factor	32
Base resolution	130	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 %	Gradient mode	ı ası
Slice partial Fourier	5/8	flip angle excit	90
Interpolation	Off	phase encoding	ON
PAT mode	None	Maxwell compensation ICE program	Off single
Prescan Normalize	Off		· ·
Raw filter	Off	prepscans	0
Geometry			
Series	Interleaved		
Sat. region 1			
Thickness	40 mm		

Thickness

Position

40 mm

L0.0 P0.0 H18.2

\\USER\Feinberglab\Tanja\20171023\AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol TA: 5:55 PAT: 2 Voxel size: 1.0×1.0×1.1 mm Rel. SNR: 1.00 USER: AV_ep2d_bold_sd_20140727

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	0	
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	FIX
further preparation	.	MSMA	S - C - T
Wait for user to start	Off	Sagittal	R >> L
Start measurements	single	Coronal	A >> P
	Sing.S	Transversal	F >> H
Routine		- Coil Combine Mode	Sum of Squares
Slice group 1		AutoAlign	
Slices	44	Auto Coil Select	Default
Dist. factor	0 %	Auto Coll Select	Delauit
Position	L3.5 A35.9 H36.1	Shim mode	Standard
Orientation	Transversal	Adjust with body coil	Off
Phase enc. dir.	A >> P	Confirm freq. adjustment	On
Rotation	0.00 deg	Assume Silicone	Off
Phase oversampling	0 %	! Ref. amplitude 1H	230.000 V
FoV read	172 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	7 1010
Slice thickness	1.05 mm	Position	L3.5 A35.9 H36.1
TR	2000 ms	Orientation	Transversal
TE	20.0 ms	Rotation	0.00 deg
Multi-band accel. factor	2	R >> L	172 mm
Filter	None	A >> P	172 mm
Coil elements	B4;M2,3;T1	F >> H	47 mm
	D-7,1012,0,1 1	ı	47 111111
Contrast MTC	Off	Physio	None
	None	1st Signal/Mode	None
Magn. preparation		BOLD	
Flip angle	55 deg	GLM Statistics	On
Fat suppr.	Fat sat.	Dynamic t-maps	Off
Averaging mode	Long term	Starting ignore meas	0
Reconstruction	Magnitude	Ignore after transition	0
Measurements	162	Model transition states	On
Delay in TR	0 ms	Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
•		Paradigm size	16
Resolution		- Meas[1]	Baseline
Base resolution	164	- Meas[1] Meas[2]	Baseline
Phase resolution	100 %		Baseline
Phase partial Fourier	5/8	Meas[3]	
Interpolation	Off	Meas[4]	Baseline
	CDADDA	Meas[5]	Baseline
PAT mode	GRAPPA	Meas[6]	Baseline
Accel. factor PE	2	Meas[7]	Baseline
Ref. lines PE	56	Meas[8]	Baseline
Reference scan mode	GRE	Meas[9]	Active
Distortion Corr.	Off	Meas[10]	Active
Prescan Normalize	Off	Meas[11]	Active
Raw filter	On	Meas[12]	Active
Elliptical filter	Off	Meas[13]	Active
•	Off	Meas[14]	Active
Hamming	Oli	Meas[15]	Active
Geometry		Meas[16]	Active
Geometry Multi-slice mode	Interleaved	Meas[16] Motion correction	Active Off

Sequence

0040000	
Introduction	Off
Bandwidth	1452 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	0.83 ms
SIR accel. factor	1
EPI factor	164
Gradient mode	Normal
RF spoiling	Off
Excite pulse duration	5820 us
Slice multiplier	1
Multi-band PE shift	0 1/FoV
zBlip scheme	0
MB kernel size	0
MB knockout band	0
No. of interleaved TEs	0
RF pulse shape	1
EPI noise scans	0
EPI full reference scan	0
Single-band images	On
MB RF phase scramble	Off
SENSE1 coil combine	Off
Log physiology to file	Off
Invert RO/PE polarity	Off
Save reduced raw data	Off
Readout slice trace	Off
Disable ramp sampling	Off
PF omits higher k-space	Off
Online multi-band recon.	Online
FFT scale factor	0.20
GRE iPAT ref. FA	12.0 deg
Send B1 shim trigger	Never
Triggering scheme	Standard
Starting ignore meas	0
Paradigm size	2
Multiplier	1
Step [1]	1
Step [2]	0

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Rel. SNR: 1.00

USER: BP_grase_clean_VASO_V07_101320

TA: 5:24

PAT: Off

Voxel size: 0.8×0.8×0.8 mm

Position L0.8 A12.2 H37.8 Properties Orientation Coronal Prio Recon Off Special sat. None Before measurement Table position After measurement Table position Load to viewer On 0 mm Inline movie Off Inline Composing Off Auto store images On System Load to stamp segments Off On T1 Load images to graphic Off M2 On segments В4 On Off Auto open inline display М3 On Start measurement without On V32 Off further preparation Wait for user to start Off Positioning mode REF Start measurements single S-C-T 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 L0.8 A12.2 H37.8 AutoAlign Orientation Transversal Auto Coil Select Default Phase enc. dir. A >> P 0.00 deg Rotation Shim mode Standard Phase oversampling 0 % Adjust with body coil Off 0.0 % Slice oversampling Confirm freq. adjustment Off Slices per slab Assume Silicone Off FoV read 130 mm ! Ref. amplitude 1H 230,000 V FoV phase 37.0 % Adjustment Tolerance Auto Slice thickness 0.8 mm Adjust volume TR 4000 ms Position L0.8 A12.2 H37.8 TE 69.6 ms Orientation Transversal **Averages** Rotation 0.00 deg Concatenations 130 mm R >> L None Filter A >> P 49 mm Coil elements B4;M2,3;T1 F >> H 7 mm Contrast Physio Magn. preparation Non-sel. IR 1st Signal/Mode None 1450 ms Composing Flip angle 180 deg Fat suppr. Fat sat. Sequence Fat sat. mode Strong Off Introduction Dimension 3D Averaging mode Long term Reordering Centric Reconstruction Magnitude Contrasts 2 Measurements Bandwidth 1342 Hz/Px 0.0 sPause after meas. Echo spacing 1 ms Multiple series Off Turbo factor 5 Resolution EPI factor 60 Base resolution 162 RF pulse type Normal Phase resolution 100 % Gradient mode Fast 100 % Slice resolution Slice partial Fourier 5/8 flip angle excit 90 Interpolation Off phase encoding ON Maxwell compensation Off PAT mode None ICE program single Prescan Normalize Off prepscans 0 Raw filter Off Geometry Series Interleaved Sat. region 1 **Thickness** 40 mm

	\\USER\Fe	inberglab\Tanja\20171023\B	P_grase_clean_\	VASO_V08_func_10132017_1200
TA: 5:24	PAT: Off	Voxel size: 1.2x1.2x1.0 mm	Rel. SNR: 1.00	USER: BP grase clean VASO V08 101320

Properties		Position Orientation	L0.8 A12.2 H37.8
Prio Recon	Off	Special sat.	Coronal None
Before measurement		Special sat.	none
After measurement		Table position	Н
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments		M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation		V32	Off
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
	onigio	Sagittal	R >> L
Routine		—— Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	1		
Dist. factor	0 %	Save uncombined	Off
Position	L0.8 A12.2 H37.8	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	D-fIt
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	150 mm	! Ref. amplitude 1H	230.000 V
FoV phase	24.6 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	Auto
TR	4000 ms	Position	L0.8 A12.2 H37.8
TE	41.2 ms	Orientation	Transversal
Averages	1	Rotation	
Concatenations	1		0.00 deg
Filter	None	R >> L	150 mm
Coil elements	B4;M2,3;T1	A >> P	37 mm
Con elements	D4,IVIZ,3,1 I	F >> H	8 mm
Contrast	New col. ID	Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI .	1200.0 ms	Composing	
Flip angle	180 deg		
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	81	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1098 Hz/Px
Multiple series	Off	Echo spacing	1 ms
	J.,	Turbo factor	5
Resolution		EPI factor	5 32
Base resolution	130		32 Normal
Phase resolution	100 %	RF pulse type	
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	Phase skip	30
Interpolation	Off	Ampl	100
	Nama	BWDTH	300 3.1kHz
PAT mode	None	thickness	100
Prescan Normalize	Off	flip angle excit	90
Raw filter	Off	phase encoding	ON ON
		Maxwell compensation	Off
Geometry		ICE program	single
Series	Interleaved	Phase skip	30
Sat. region 1		I Hase skip	30
Thickness	40 mm		
11110/11/029	TO IIIIII		

\\USER\Feinberglab\Tanja\20171031\AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol TA: 5:55 PAT: 2 Voxel size: 1.0×1.0×1.1 mm Rel. SNR: 1.00 USER: AV_ep2d_bold_sd_20140727

	Special sat.	None
Off	Table position	Н
	Table position	0 mm
	Inline Composing	Off
On		
Off		
		On
_		On
	B4	On
OII	M3	On
Off	V32	Off
	Desitioning and	FIV
Oli		FIX
0#		S-C-T
_		R >> L
single		A >> P
		F >> H
		Sum of Squares
44		
	Auto Coil Select	Default
	Shim mode	Standard
		Off
		On O"
		Off
		230.000 V
		Auto
	Position	R1.2 A28.5 H28.6
	Orientation	Transversal
20.0 ms	Rotation	0.00 deg
2	R >> L	172 mm
None	A >> P	172 mm
B4;M2,3;T1	F >> H	47 mm
	Physio	
Off	_	None
_	1	140110
•	GLM Statistics	On
	Dynamic t-maps	Off
Long term	Starting ignore meas	0
Magnitude		0
162		On
		On
		4.00
		16
	_	Baseline
164		Baseline
100 %		
5/8		Baseline
Off		Baseline
CDADDA		Baseline
		Baseline
		Baseline
		Baseline
GRE	Meas[9]	Active
	Maga[10]	Active
Off	Meas[10]	7101110
Off	Meas[11]	Active
Off		
Off On	Meas[11] Meas[12]	Active
Off On Off	Meas[11] Meas[12] Meas[13]	Active Active Active
Off On	Meas[11] Meas[12] Meas[13] Meas[14]	Active Active Active Active
Off On Off	Meas[11] Meas[12] Meas[13] Meas[14] Meas[15]	Active Active Active Active Active
Off On Off	Meas[11] Meas[12] Meas[13] Meas[14]	Active Active Active Active
	On Off Off On Off Off Off Off Off Off Of	Table position Inline Composing

Sequence

Introduction	Off
Bandwidth	1452 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	0.83 ms
SIR accel. factor	1
EPI factor	164
Gradient mode	Normal
RF spoiling	Off
Excite pulse duration	5820 us
Slice multiplier	1
Multi-band PE shift	0 1/FoV
zBlip scheme	0
MB kernel size	0
MB knockout band	0
No. of interleaved TEs	0
RF pulse shape	1
EPI noise scans	0
EPI full reference scan	0
Single-band images	On Off
MB RF phase scramble	Off
SENSE1 coil combine	Off
Log physiology to file	Off
Invert RO/PE polarity Save reduced raw data	Off Off
Readout slice trace	Off
Disable ramp sampling	Off
PF omits higher k-space	Off
Online multi-band recon.	Online
FFT scale factor	0.20
GRE iPAT ref. FA	12.0 deg
Send B1 shim trigger	Never
Triggering scheme	Standard
Starting ignore meas	0
Paradigm size	2
Multiplier	1
Step [1]	1
Step [2]	0
1	

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TA: 5:24 PAT: Off Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V07_101320 Position R2.0 A12.2 F12.1 Properties Orientation Coronal Prio Recon Off Special sat. None Before measurement Table position After measurement Table position Load to viewer On 0 mm Inline movie Off Inline Composing Off Auto store images On System Load to stamp segments Off On T1 Load images to graphic Off M2 On segments В4 On Off Auto open inline display М3 On Start measurement without On V32 Off further preparation Off Wait for user to start Positioning mode REF Start measurements single S-C-T 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 R1.3 A12.2 H25.6 AutoAlign Orientation Transversal Auto Coil Select Default Phase enc. dir. A >> P 0.00 deg Rotation Shim mode Standard Phase oversampling 0 % Adjust with body coil Off 0.0 % Slice oversampling Confirm freq. adjustment Off Slices per slab Assume Silicone Off FoV read 162 mm ! Ref. amplitude 1H 230,000 V FoV phase 37.0 % Adjustment Tolerance Auto Slice thickness 1.0 mm Adjust volume TR 4000 ms Position R1.3 A12.2 H25.6 TE 69.4 ms Orientation Transversal **Averages** Rotation 0.00 deg Concatenations 162 mm R >> L None Filter A >> P 60 mm Coil elements B4;M2,3;T1 F >> H 8 mm Contrast Physio Magn. preparation Non-sel. IR 1st Signal/Mode None 1450 ms Composing Flip angle 180 deg Fat suppr. Fat sat. Sequence Fat sat. mode Strong Off Introduction Dimension 3D Averaging mode Long term Reordering Centric Reconstruction Magnitude Contrasts 2 Measurements Bandwidth 1342 Hz/Px 0.0 sPause after meas. Echo spacing 1 ms Multiple series Off Turbo factor 5 Resolution EPI factor 60 Base resolution 162 RF pulse type Normal Phase resolution 100 % Gradient mode Fast 100 % Slice resolution Slice partial Fourier 5/8 flip angle excit 90 Interpolation Off phase encoding ON Maxwell compensation Off PAT mode None ICE program single Prescan Normalize Off prepscans 0 Raw filter Off Geometry Series Interleaved Sat. region 1

Thickness

60 mm

Rel. SNR: 1.00

Voxel size: 1.0×1.0×1.0 mm

TA: 5:36

PAT: 2

USER: ep2d_fid_VASO

Properties	O#	Multi-slice mode Series	Interleaved Interleaved
Prio Recon Before measurement	Off	Special act	None
After measurement		Special sat.	
	On	Table position	Н
Load to viewer	On O#	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On O"		
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments	0"	M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation		V32	Off
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine		_	R >> L
Slice group 1		Sagittal	K >> L A >> P
Slices	1	Coronal	
Dist. factor	50 %	Transversal	F >> H
Position	R0.6 A30.4 H25.6	Save uncombined	Off
		Coil Combine Mode	Sum of Squares
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
FoV read	192 mm	Confirm freq. adjustment	Off
FoV phase	100.0 %	Assume Silicone	Off
Slice thickness	1.0 mm		230.000 V
TR	4000.0 ms	! Ref. amplitude 1H	
TE 1	21 ms	Adjustment Tolerance	Auto
TE 2	21 ms	Adjust volume	DO C 420 4 U25 C
Averages	1	Position	R0.6 A30.4 H25.6
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	192 mm
Operation of		A >> P	192 mm
Contrast	0"	F >> H	1 mm
MTC	Off	Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI .	1450 ms		110110
Flip angle	90 deg	Perf	
Fat suppr.	Fat sat.	GBP	Off
Averaging mode	Long term	PBP	Off
Reconstruction	Magnitude	TTP	Off
Measurements	81	Original images	On
Delay in TR	0 ms	Soguence	
Multiple series	Off	Sequence Introduction	Off
		Contrasts	2
Resolution		Bandwidth	2 1132 Hz/Px
Base resolution	192		
Phase resolution	100 %	Free echo spacing	Off
Phase partial Fourier	5/8	Echo spacing	1 ms
Interpolation	Off	EPI factor	192
PAT mode	GRAPPA	RF pulse type	Fast
	GRAPPA 2	Gradient mode	Fast
Accel. factor PE		1	
Ref. lines PE	24 Sanarata		
Reference scan mode	Separate		
Distortion Corr.	Off		
Prescan Normalize	Off		
Raw filter	Off		
Elliptical filter	Off		
Hamming	Off		
Geometry		24/05	

Properties		Special sat.	None
Prio Recon	Off	Table position	H
Before measurement		Table position	0 mm
After measurement		Inline Composing	Off
Load to viewer	On	1	
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	FIX
further preparation	-	MSMA	S - C - T
Wait for user to start	Off	Sagittal	R >> L
Start measurements	single	Coronal	A >> P
	g	Transversal	F >> H
Routine		Coil Combine Mode	Sum of Squares
Slice group 1		AutoAlign	
Slices	44	Auto Coil Select	Default
Dist. factor	0 %	Auto Con Select	
Position	R1.2 A35.3 H29.3	Shim mode	Standard
Orientation	Transversal	Adjust with body coil	Off
Phase enc. dir.	A >> P	Confirm freq. adjustment	On
Rotation	0.00 deg	Assume Silicone	Off
Phase oversampling	0 %	! Ref. amplitude 1H	230.000 V
FoV read	172 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	
Slice thickness	1.05 mm	Position	R1.2 A35.3 H29.3
TR	2000 ms	Orientation	Transversal
TE	20.0 ms	Rotation	0.00 deg
Multi-band accel. factor	2	R >> L	172 mm
Filter	None	A >> P	172 mm
Coil elements	B4;M2,3;T1	F >> H	47 mm
Contrast	, ,-,	I	
MTC	Off	Physio 1st Signal/Mode	None
Magn. preparation	None	1st Signal/Mode	None
Flip angle	55 deg	BOLD	
Fat suppr.	Fat sat.	GLM Statistics	On
·····		Dynamic t-maps	Off
Averaging mode	Long term	Starting ignore meas	0
Reconstruction	Magnitude	Ignore after transition	0
Measurements	162	Model transition states	On
Delay in TR	0 ms	Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
·		Paradigm size	16
Resolution	404	— Meas[1]	Baseline
Base resolution	164	Meas[2]	Baseline
Phase resolution	100 %	Meas[3]	Baseline
Phase partial Fourier	5/8	Meas[4]	Baseline
Interpolation	Off	Meas[4]	Baseline
PAT mode	GRAPPA	Meas[6]	Baseline
Accel. factor PE	2	Meas[7]	Baseline
Ref. lines PE	56	Meas[8]	Baseline
Reference scan mode	GRE	Meas[9]	Active
		··· Meas[9]	Active
Distortion Corr.	Off	Meas[10] Meas[11]	Active
Prescan Normalize	Off		Active
Raw filter	On	Meas[12]	Active
Elliptical filter	Off	Meas[13]	
Hamming	Off	Meas[14]	Active
-		Meas[15]	Active
Geometry		Meas[16]	Active
Multi-slice mode	Interleaved	Motion correction	Off
Series	Interleaved	Spatial filter	Off

Sequence

Introduction	Off
Bandwidth	1452 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	0.83 ms
SIR accel. factor	1
EPI factor	164
Gradient mode	Normal
RF spoiling	Off
Excite pulse duration	5820 us
Slice multiplier	1
Multi-band PE shift	0 1/FoV
zBlip scheme	0
MB kernel size	0
MB knockout band	0
No. of interleaved TEs	0
RF pulse shape	1
EPI noise scans	0
EPI full reference scan	0
Single-band images	On Off
MB RF phase scramble	Off
SENSE1 coil combine	Off
Log physiology to file	Off
Invert RO/PE polarity Save reduced raw data	Off Off
Readout slice trace	Off
Disable ramp sampling	Off
PF omits higher k-space	Off
Online multi-band recon.	Online
FFT scale factor	0.20
GRE iPAT ref. FA	12.0 deg
Send B1 shim trigger	Never
Triggering scheme	Standard
Starting ignore meas	0
Paradigm size	2
Multiplier	1
Step [1]	1
Step [2]	0
1	

	•	3\BP_grase_clean_VASO_V07_t	func_1.2x1.2x1
ΓΑ: 5:24 PAT: Off Vox	el size: 1.2×1.2×1.0 mm	Rel. SNR: 1.00 USER: BP_gra	ase_clean_VASO_V07_101320
Properties		Position	L0.0 A17.7 H0.0
Prio Recon	Off	——— Orientation	Coronal
Before measurement	Oli	Special sat.	None
After measurement		Table position	Н
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On	milite Composing	Oli
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments	Oli	M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
	On	V32	Off
further preparation Wait for user to start	O#		
	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine		Sagittal	R >> L
Slab group 1		Coronal	A >> P
Slabs	1	Transversal	F >> H
Dist. factor	0 %	Save uncombined	Off
Position	R1.3 A17.7 H30.4	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Chim mada	Ctondord
Phase oversampling	0.00 deg 0 %	Shim mode	Standard
Slice oversampling	0.0 %	Adjust with body coil	Off
Slices per slab	8	Confirm freq. adjustment	Off
FoV read	•	Assume Silicone	Off
	150 mm	! Ref. amplitude 1H	230.000 V
FoV phase	24.6 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	
TR	4000 ms	Position	R1.3 A17.7 H30.4
TE	40.3 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	150 mm
Filter	None	A >> P	37 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast	Non-sel. IR	Physio	N.
Magn. preparation	1450 ms	1st Signal/Mode	None
TI Film and all		Composing	
Flip angle	180 deg		
Fat suppr. Fat sat. mode	Fat sat.	Sequence	
Fat Sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	81	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1374 Hz/Px
Multiple series	Off	Echo spacing	1 ms
Resolution		Turbo factor	5
Base resolution	130	EPI factor	32
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	flin and!	
Interpolation	Off	flip angle excit	90
	OII	phase encoding	ON
PAT mode	None	Maxwell compensation	Off
Prescan Normalize	Off	ICE program	single
Raw filter	Off	prepscans	0
	Jii		
Geometry			
Series	Interleaved		

Sat. region 1 Thickness

40 mm

USER: ep2d_fid_VASO

Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00

PAT: 2

TA: 5:36

			·
Properties	0"	Multi-slice mode Series	Interleaved Interleaved
Prio Recon	Off	Special set	None
Before measurement After measurement		Special sat.	None
	On	Table position	Н
Load to viewer	On O#	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On O#		
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments	0"	M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation		V32	Off
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine			R >> L
Slice group 1		Sagittal	A >> P
Slices	1	Coronal	
Dist. factor	50 %	Transversal	F >> H
Position		Save uncombined	Off
	R1.3 A29.0 H30.4	Coil Combine Mode	Sum of Squares
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
FoV read	192 mm	Confirm freq. adjustment	Off
FoV phase	100.0 %	Assume Silicone	Off
Slice thickness	1.0 mm		230.000 V
TR	4000.0 ms	! Ref. amplitude 1H	
TE 1	21 ms	Adjustment Tolerance	Auto
TE 2	21 ms	Adjust volume	D4 2 420 0 H20 4
Averages	1	Position	R1.3 A29.0 H30.4
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	192 mm
0		A >> P	192 mm
Contrast	0"	F >> H	1 mm
MTC	Off	Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI .	1450 ms	1	110110
Flip angle	90 deg	Perf	
Fat suppr.	Fat sat.	GBP	Off
Averaging mode	Long term	PBP	Off
Reconstruction	Magnitude	TTP	Off
Measurements	81	Original images	On
Delay in TR	0 ms	Soguence	
Multiple series	Off	Sequence Introduction	Off
•	3		2
Resolution		Contrasts Bandwidth	2 1132 Hz/Px
Base resolution	192		
Phase resolution	100 %	Free echo spacing	Off
Phase partial Fourier	5/8	Echo spacing	1 ms
Interpolation	Off	EPI factor	192
PAT mode	CDADDA	RF pulse type	Fast
	GRAPPA	Gradient mode	Fast
Accel. factor PE	2	1	
Ref. lines PE	24 Sanarata		
Reference scan mode	Separate		
Distortion Corr.	Off		
Prescan Normalize	Off		
Raw filter	Off		
Elliptical filter	Off		
Hamming	Off		
	J. .		
Geometry			
		20/05	

Rel. SNR: 1.00

USER: ep2d_fid_VASO

Voxel size: 1.2x1.2x1.0 mm

PAT: 2

TA: 5:36

Properties		Multi-slice mode Series	Interleaved
Prio Recon	Off		Interleaved
Before measurement		Special sat.	None
After measurement		Table position	Н
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		
Load to stamp segments	Off Off	System	
Load images to graphic	Off	T1	On
segments	0"	M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation Wait for user to start	Off	V32	Off
Start measurements	single	Positioning mode	FIX
Start measurements	Sirigie	MSMA	S - C - T
Routine		Sagittal	R >> L
Slice group 1		Coronal	A >> P
Slices	1	Transversal	F >> H
Dist. factor	50 %	Save uncombined	Off
Position	R1.3 A29.0 H30.4	Coil Combine Mode	Sum of Squares
Orientation	Transversal	AutoAlign	·
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg		Otan davi
Phase oversampling	0 %	Shim mode	Standard
FoV read	191 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	1.0 mm	Assume Silicone	Off
TR	4000.0 ms	! Ref. amplitude 1H	230.000 V
TE 1	21 ms	Adjustment Tolerance	Auto
TE 2	21 ms	Adjust volume Position	R1.3 A29.0 H30.4
Averages	1	Orientation	Transversal
Concatenations	1	Rotation	
Filter	None	Rotation R >> L	0.00 deg 191 mm
Coil elements	B4;M2,3;T1	A >> P	191 mm
Contrast		F >> H	1 mm
MTC	Off		1 111111
Magn. preparation	Non-sel. IR	Physio	
TI	1450 ms	1st Signal/Mode	None
Flip angle	90 deg	Perf	
Fat suppr.	Fat sat.	GBP	Off
	•	PBP	Off
Averaging mode	Long term	TTP	Off
Reconstruction	Magnitude	Original images	On
Measurements	81		5.1
Delay in TR	0 ms	Sequence	
Multiple series	Off	Introduction	Off
Resolution		Contrasts	2
Base resolution	166	Bandwidth	1204 Hz/Px
Phase resolution	100 %	Free echo spacing	Off
Phase partial Fourier	5/8	Echo spacing	1 ms
Interpolation	Off	EPI factor	166
PAT mode	CDADDA	RF pulse type	Fast
	GRAPPA	Gradient mode	Fast
Accel. factor PE	2	1	
Ref. lines PE	24 Saparata		
Reference scan mode	Separate		
Distortion Corr.	Off		
Prescan Normalize	Off		
Raw filter	Off		
Elliptical filter	Off		
Elliptical filter Hamming	Off		

\\LISED\Eoi	phoralah\Tania\201711	03\PD graco	cloan VASO VOT	7 func 0 Rico
	nberglab\Tanja\201711 el size: 0.8×0.8×0.8 mm	Rel. SNR: 1.0		r_lulic_0.6is0 ase_clean_VASO_V07_10132
TA. 5.24 FAT. OII VOX	ei Size. 0.0x0.0x0.0 iiiiii	Nei. Sinn. 1.0	OSEK. BF_gi	dse_cleati_vA3O_v07_10132
Properties		_	sition	L0.0 A17.7 H0.0
Prio Recon	Off	_	entation	Coronal
Before measurement	011	Spec	cial sat.	None
After measurement		Table	e position	Н
Load to viewer	On		e position	0 mm
Inline movie	Off		e Composing	Off
Auto store images	On	ı	. •	
Load to stamp segments	Off	System		
Load images to graphic	Off	T1		On
segments		M2		On
Auto open inline display	Off	B4		On
Start measurement without	On	M3		On
further preparation		V32		Off
Wait for user to start	Off	Posit	tioning mode	FIX
Start measurements	single	MSM		S - C - T
ı	3 -	Sagit		R >> L
Routine		—— Coro		A >> P
Slab group 1			sversal	F >> H
Slabs	1		uncombined	Off
Dist. factor	0 %		Combine Mode	Adaptive Combine
Position	R1.3 A17.7 H30.4	Auto		
Orientation	Transversal		Coil Select	Default
Phase enc. dir.	A >> P			
Rotation	0.00 deg	_	n mode	Standard
Phase oversampling	0 %		st with body coil	Off
Slice oversampling	0.0 %		irm freq. adjustment	Off
Slices per slab	8		me Silicone	Off
FoV read	130 mm		. amplitude 1H	230.000 V
FoV phase	20.3 %		stment Tolerance	Auto
Slice thickness	0.8 mm		st volume	
TR	4000 ms		osition	R1.3 A17.7 H30.4
TE	41.6 ms	_	rientation	Transversal
Averages	1		otation	0.00 deg
Concatenations	1		>> L	130 mm
Filter	None PAMO 0:T4	_	>> P	27 mm
Coil elements	B4;M2,3;T1		>> H	7 mm
Contrast		Physio		
Magn. preparation	Non-sel. IR	1st S	Signal/Mode	None
TI	1450 ms	Compos	eina	
Flip angle	180 deg	Оотгро	Sirig	
Fat suppr.	Fat sat.	Sequen		
Fat sat. mode	Strong		duction	Off
Averaging mode	Long term	Dime	ension	3D
Reconstruction	Magnitude		dering	Centric
Measurements	81	Cont		2
Pause after meas.	0.0 s		dwidth	1172 Hz/Px
Multiple series	Off	Echo	spacing	1 ms
	e::	Turk	o factor	5
Resolution	450		actor	32
Base resolution	158		ulse type	Normal
Phase resolution	100 %		lient mode	Fast
Slice resolution	100 %			ı ası
Slice partial Fourier	5/8	flip a	ngle excit	90
Interpolation	Off		e encoding	ON
PAT mode	None		well compensation	Off
		ICE ;	orogram	single
Prescan Normalize	Off		scans	0
Raw filter	Off	1		
Geometry				
Series	Interleaved			

Interleaved

28 mm

Series

Sat. region 1 Thickness

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	0	
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	FIX
further preparation	911	Positioning mode	S - C - T
Wait for user to start	Off	MSMA So sitto l	8 - C - 1 R >> L
Start measurements	single	Sagittal	· · · · =
Start measurements	Single	Coronal	A >> P
Routine		Transversal	F >> H
Slice group 1		Coil Combine Mode	Sum of Squares
Slices	44	AutoAlign	 D ()
Dist. factor	0 %	Auto Coil Select	Default
Position	R4.6 A29.2 H29.3	Shim mode	Standard
Orientation	Transversal	Adjust with body coil	Off
Phase enc. dir.	A >> P	Confirm freq. adjustment	On
Rotation	0.00 deg	Assume Silicone	Off
Phase oversampling	0.00 deg 0 %	! Ref. amplitude 1H	230.000 V
FoV read	164 mm		
FoV read FoV phase	100.0 %	Adjustment Tolerance	Auto
		Adjust volume	D 4 0 4 00 0 1 100 0
Slice thickness	1.00 mm	Position	R4.6 A29.2 H29.3
TR	2000 ms	Orientation	Transversal
TE	22.9 ms	Rotation	0.00 deg
Multi-band accel. factor	2	R >> L	164 mm
Filter	None	A >> P	164 mm
Coil elements	B4;M2,3;T1	F >> H	44 mm
Contrast		Physio	
MTC	Off	1st Signal/Mode	None
Magn. preparation	None	1	
Flip angle	55 deg	BOLD	
Fat suppr.	Fat sat.	GLM Statistics	On
		Dynamic t-maps	Off
Averaging mode	Long term	Starting ignore meas	0
Reconstruction	Magnitude	Ignore after transition	0
Measurements	162	Model transition states	On
Delay in TR	0 ms	Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
Resolution		Paradigm size	16
	164	- Meas[1]	Baseline
Base resolution	164	Meas[2]	Baseline
Phase resolution	100 %	Meas[3]	Baseline
Phase partial Fourier	5/8	Meas[4]	Baseline
Interpolation	Off	Meas[5]	Baseline
PAT mode	GRAPPA	Meas[6]	Baseline
Accel. factor PE	2	Meas[7]	Baseline
Ref. lines PE	56	Meas[8]	Baseline
Reference scan mode	GRE	Meas[9]	Active
Distortion Corr.	Off	Meas[10]	Active
Prescan Normalize	Off	Meas[11]	Active
Raw filter	On	Meas[12]	Active
Elliptical filter	Off	Meas[13]	Active
		Meas[14]	Active
•			
Hamming	Off	Meas[15]	Active
•		Meas[15] Meas[16]	Active
Hamming		Meas[15]	

Sequence

Introduction Bandwidth Flow comp. Free echo spacing Echo spacing	Off 1452 Hz/Px No Off 1 ms
SIR accel. factor EPI factor Gradient mode RF spoiling	1 164 Normal Off
Excite pulse duration Slice multiplier Multi-band PE shift zBlip scheme MB kernel size MB knockout band No. of interleaved TEs RF pulse shape EPI noise scans EPI full reference scan Single-band images MB RF phase scramble SENSE1 coil combine Log physiology to file Invert RO/PE polarity Save reduced raw data Readout slice trace Disable ramp sampling PF omits higher k-space Online multi-band recon. FFT scale factor GRE iPAT ref. FA Send B1 shim trigger Triggering scheme Starting ignore meas Paradigm size Multiplier Step [1] Step [2]	5820 us 1 0 1/FoV 0 0 0 0 1 0 0 0 On Off Off Off Off Off Off Off Off Off

\\USER\Feinberglab\Tanja\20171107_ismrm\BP_grase_clean_VASO_V07_func_0.8iso

Rel. SNR: 1.00

USER: BP_grase_clean_VASO_V07_101320

Voxel size: 1.0×1.0×1.0 mm

TA: 5:24

PAT: Off

Position L0.8 A5.4 F6.7 Properties Orientation Coronal Prio Recon Off Special sat. None Before measurement Table position After measurement Table position Load to viewer On 0 mm Inline movie Off Inline Composing Off Auto store images On System Load to stamp segments Off On T1 Load images to graphic Off M2 On segments В4 On Off Auto open inline display М3 On Start measurement without On V32 Off further preparation Off Wait for user to start Positioning mode FIX Start measurements single S-C-T 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 R0.5 A5.4 H23.6 AutoAlign Orientation Transversal Auto Coil Select Default Phase enc. dir. A >> P 0.00 deg Rotation Shim mode Standard Phase oversampling 0 % Adjust with body coil Off 0.0 % Slice oversampling Confirm freq. adjustment Off Slices per slab Assume Silicone Off FoV read 128 mm ! Ref. amplitude 1H 230,000 V FoV phase 25.0 % Adjustment Tolerance Auto Slice thickness 1.0 mm Adjust volume TR 4000 ms Position R0.5 A5.4 H23.6 TE 41.0 ms Orientation Transversal **Averages** Rotation 0.00 deg Concatenations 128 mm R >> L None Filter A >> P 32 mm Coil elements B4;M2,3;T1 F >> H 8 mm Contrast Physio Magn. preparation Non-sel. IR 1st Signal/Mode None 1450 ms Composing Flip angle 180 deg Fat suppr. Fat sat. Sequence Fat sat. mode Strong Off Introduction Dimension 3D Averaging mode Long term Reordering Centric Reconstruction Magnitude Contrasts Measurements Bandwidth 1148 Hz/Px 0.0 sPause after meas. Echo spacing 1 ms Multiple series Off Turbo factor 5 Resolution EPI factor 32 Base resolution 128 RF pulse type Normal Phase resolution 100 % Gradient mode Fast 100 % Slice resolution Slice partial Fourier 5/8 flip angle excit 90 Interpolation Off phase encoding ON Maxwell compensation Off PAT mode None ICE program single Prescan Normalize Off prepscans 0 Raw filter Off Geometry Series Interleaved Sat. region 1 **Thickness** 28 mm

Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00

USER: ep2d_fid_VASO

TA: 5:36

PAT: 2

			·
Properties	O#	Multi-slice mode Series	Interleaved Interleaved
Prio Recon Before measurement	Off	Special set	None
After measurement		Special sat.	·····
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
	Off	Custom	
Load to stamp segments	Off	System	
Load images to graphic	Oli	T1	On
segments	0"	M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation	0"	V32	Off
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine		Sagittal	R >> L
Slice group 1		Coronal	A >> P
Slices	1	Transversal	F >> H
Dist. factor	50 %	Save uncombined	Off
Position	R6.9 A20.9 H25.0		
Orientation	Transversal	Coil Combine Mode	Sum of Squares
Phase enc. dir.	A >> P	AutoAlign	 D (!'
Rotation		Auto Coil Select	Default
	0.00 deg 0 %	Shim mode	Standard
Phase oversampling		Adjust with body coil	Off
FoV read	192 mm	Confirm freq. adjustment	Off
FoV phase	100.0 %	Assume Silicone	Off
Slice thickness	1.0 mm	! Ref. amplitude 1H	230.000 V
TR	4000.0 ms	Adjustment Tolerance	Auto
TE 1	21 ms	Adjust volume	rato
TE 2	21 ms	Position	R6.9 A20.9 H25.0
Averages	1	Orientation	Transversal
Concatenations	1	Rotation	0.00 deg
Filter	None	R >> L	192 mm
Coil elements	B4;M2,3;T1	A >> P	192 mm
Contrast		F >> H	1 mm
MTC	Off		1 111111
Magn. preparation	Non-sel. IR	Physio	
TI	1450 ms	1st Signal/Mode	None
Flip angle	90 deg	Perf	
Fat suppr.	Fat sat.	GBP	Off
		PBP	Off
Averaging mode	Long term	TTP	Off
Reconstruction	Magnitude	Original images	On
Measurements	81	Original images	Oli
Delay in TR	0 ms	Sequence	
Multiple series	Off	Introduction	Off
Resolution		Contrasts	2
Base resolution	192	Bandwidth	1132 Hz/Px
Phase resolution	100 %	Free echo spacing	Off
Phase partial Fourier	5/8	Echo spacing	1 ms
Interpolation	Off		
	<u> </u>	EPI factor	192
PAT mode	GRAPPA	RF pulse type	Fast
Accel. factor PE	2	Gradient mode	Fast
Ref. lines PE	24		
Reference scan mode	Separate		
Distortion Corr.	Off		
Prescan Normalize	Off		
Raw filter	Off		
Elliptical filter	Off		
Hamming	Off		
Geometry			
		24/05	

\\USER\Feinberglab\Tanja\20171120_FOCI\AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol TA: 5:55 PAT: 2 Voxel size: 1.1×1.1×1.5 mm Rel. SNR: 1.00 USER: AV_ep2d_bold_sd_20140727

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	Custom	
Inline movie	Off	System	0.5
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	FIX
further preparation		MSMA	S - C - T
Wait for user to start	Off	Sagittal	R >> L
Start measurements	single	Coronal	A >> P
	5.1.g.5	Transversal	F >> H
Routine		- Coil Combine Mode	Sum of Squares
Slice group 1		AutoAlign	
Slices	44	Auto Coil Select	 Default
Dist. factor	0 %	Auto Coll Select	Delault
Position	R4.6 A29.2 H29.3	Shim mode	Standard
Orientation	Transversal	Adjust with body coil	Off
Phase enc. dir.	A >> P	Confirm freq. adjustment	On
Rotation	0.00 deg	Assume Silicone	Off
Phase oversampling	0 %	! Ref. amplitude 1H	230.000 V
FoV read	164 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	
Slice thickness	1.50 mm	Position	R4.6 A29.2 H29.3
TR	2000 ms	Orientation	Transversal
TE	23.2 ms	Rotation	0.00 deg
Multi-band accel. factor	2	R >> L	164 mm
Filter	None	A >> P	164 mm
Coil elements	B4;M2,3;T1	F >> H	66 mm
	_ ·,··· <u>_</u> ,··,·	I	00 111111
Contrast MTC	Off	Physio 1et Signal/Mode	None
Magn. preparation	None	1st Signal/Mode	None
Flip angle	55 deg	BOLD	
	Fat sat.	GLM Statistics	On
Fat suppr.	Fai Sai.	Dynamic t-maps	Off
Averaging mode	Long term	Starting ignore meas	0
Reconstruction	Magnitude	Ignore after transition	0
Measurements	162	Model transition states	On
Delay in TR	0 ms	Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
•		Paradigm size	16
Resolution			
		<u> </u>	
Base resolution	150	– Meas[1]	Baseline
Phase resolution	100 %	- Meas[1] Meas[2]	Baseline Baseline
	100 % 5/8	- Meas[1] Meas[2] Meas[3]	Baseline Baseline Baseline
Phase resolution	100 %	Meas[1]Meas[2]Meas[3]Meas[4]	Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation	100 % 5/8 Off	 Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] 	Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode	100 % 5/8 Off GRAPPA	 Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] 	Baseline Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE	100 % 5/8 Off GRAPPA 2	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE	100 % 5/8 Off GRAPPA 2 56	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE	100 % 5/8 Off GRAPPA 2	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode	100 % 5/8 Off GRAPPA 2 56 GRE	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active
Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr.	100 % 5/8 Off GRAPPA 2 56 GRE	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline 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	100 % 5/8 Off GRAPPA 2 56 GRE Off	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active 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	100 % 5/8 Off GRAPPA 2 56 GRE Off Off	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active 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	100 % 5/8 Off GRAPPA 2 56 GRE Off Off Off On Off	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active Active Active 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	100 % 5/8 Off GRAPPA 2 56 GRE Off Off	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active 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	100 % 5/8 Off GRAPPA 2 56 GRE Off Off Off On Off	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active Active Active Active 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 % 5/8 Off GRAPPA 2 56 GRE Off Off Off On Off	- Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15]	Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Active

Sequence

Introduction	Off
Bandwidth	1076 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	1.05 ms
SIR accel. factor	1
EPI factor	150
Gradient mode	Normal
RF spoiling	Off
Excite pulse duration	5820 us
Slice multiplier	1
Multi-band PE shift	0 1/FoV
zBlip scheme	0
MB kernel size	0
MB knockout band	0
No. of interleaved TEs	0
RF pulse shape	1
EPI noise scans	0
EPI full reference scan	0
Single-band images	On
MB RF phase scramble	Off
SENSE1 coil combine	Off
Log physiology to file	Off
Invert RO/PE polarity	Off
Save reduced raw data	Off
Readout slice trace	Off
Disable ramp sampling	Off
PF omits higher k-space	Off
Online multi-band recon.	Online
FFT scale factor	0.20
GRE iPAT ref. FA	12.0 deg
Send B1 shim trigger	Never
Triggering scheme	Standard
Starting ignore meas	0
Paradigm size	2
Multiplier	1
Step [1]	1
Step [2]	0

	\\USE	R\Feinberglab\Tanja\201711	120_FOCI\BP_gra	ase_clean_VASO_V07_func
TA: 5:24	PAT: Off	Voxel size: 1.0×1.0×1.0 mm	Rel. SNR: 1.00	USER: BP_grase_clean_VASO_V07_101320

Properties Prio Recon	Off	Position Orientation	L0.8 A5.4 F6.7 Coronal
Before measurement After measurement	-	Special sat.	None H
Load to viewer	On	Table position Table position	П 0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		.
Load to stamp segments	Off	System	On
Load images to graphic	Off	T1 M2	On On
segments		B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation Wait for user to start	Off		
Start measurements	single	Positioning mode MSMA	FIX S - C - T
ļ	Sirigie	Sagittal	8 - C - 1 R >> L
Routine		Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs Dist. factor	1 0 %	Save uncombined	Off
Position	R0.5 A5.4 H23.6	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness TR	1.0 mm 4000 ms	Adjust volume	D0 5 45 4 1 100 0
TE	4000 ms 41.0 ms	Position Orientation	R0.5 A5.4 H23.6
Averages	1	Rotation	Transversal 0.00 deg
Concatenations	1	R >> L	128 mm
Filter	None	A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI TI	1450 ms		
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	81	Contrasts Bandwidth	2 44.40 H=/Dy
Pause after meas.	0.0 s	Echo spacing	1148 Hz/Px 1 ms
Multiple series	Off		
Resolution		Turbo factor	5
Base resolution	128	EPI factor	32 Normal
Phase resolution	100 %	RF pulse type Gradient mode	Normal Fast
Slice resolution	100 %		ı ası
Slice partial Fourier	5/8	flip angle excit	90
Interpolation	Off	phase encoding	ON O''
PAT mode	None	Maxwell compensation ICE program	Off single
Prescan Normalize	Off	prepscans	o 0
Raw filter	Off	propoddilo	5
Geometry			
Series	Interleaved		
Sat. region 1 Thickness	32 mm		
11110111030	Q2 111111		

	\\USER\Fe	einberglab\Tanja\20171120_l	FOCI\BP_grase_o	clean_VASO_V08_func_TR4000
TA: 5:24	PAT: Off	Voxel size: 1.0×1.0×1.0 mm	Rel. SNR: 1.00	USER: BP_grase_clean_VASO_V08_101320

Properties Prio Recon	Off	Position Orientation	L0.0 P0.0 H18.2 Coronal
Before measurement	Oil	Special sat.	None
After measurement		Table position	H
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
	On	I mile Composing	Oli
Auto store images	Off	System	
Load to stamp segments	Off	T1	On
Load images to graphic	Oii	M2	On
segments	0"	B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation	0"		
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine		Sagittal	R >> L
Slab group 1		— Coronal	A >> P
Slabs	1	Transversal	F >> H
Dist. factor	0 %	Save uncombined	Off
Position	L0.0 P0.0 H18.2	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation			04
	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	
TR	4000 ms	Position	L0.0 P0.0 H18.2
TE	41.0 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	128 mm
Filter	None	A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast		Discosio	
	Non-sel. IR	Physio 1/14	
Magn. preparation		1st Signal/Mode	None
TI	1100.0 ms	Composing	
Flip angle	180 deg		
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	81	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1148 Hz/Px
Multiple series	Off	Echo spacing	1 ms
1		Turbo factor	
Resolution			5
Base resolution	128	EPI factor	32 Name of
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	Phase skip	30
Interpolation	Off	Ampl	100
		BWDTH	200 3.1kHz
PAT mode	None	thickness	100
Prescan Normalize	Off	flip angle excit	90
Raw filter	Off	phase encoding	ON
	U II	Maxwell compensation	Off
Geometry		ICE program	
Series	Interleaved		single
Sat ragion 1		Phase skip	30
Sat. region 1	22 mm		
Thickness	32 mm		

	\\USER\Fe	einberglab\Tanja\20171120_l	FOCI\BP_grase_	clean_VASO_V08_func_TR3000
TA: 4:03	PAT: Off	Voxel size: 1.0×1.0×1.0 mm	Rel. SNR: 1.00	USER: BP_grase_clean_VASO_V08_101320

Properties Prio Recon	Off	Position Orientation	L0.0 P0.0 H18.2 Coronal
Before measurement	OII	Special sat.	None
After measurement		Table position	Н
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
	On	I milite Composing	Oil
Auto store images	Off	System	
Load to stamp segments	Off	T1	On
Load images to graphic	Oil	M2	On
segments	0"	B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation	0"		
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine		Sagittal	R >> L
Slab group 1		— Coronal	A >> P
Slabs	1	Transversal	F >> H
Dist. factor	0 %	Save uncombined	Off
	L0.0 P0.0 H18.2	Coil Combine Mode	Adaptive Combine
Position		AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P		
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	
TR	3000 ms	Position	L0.0 P0.0 H18.2
TE	41.0 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	128 mm
Filter	None	A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
1	, ,-,	I	O 11
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	1100.0 ms	Composing	
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Avoraging mode	Long torm	Dimension	3D
Averaging mode Reconstruction	Long term Magnitude	Reordering	Centric
	•	Contrasts	2
Measurements	81	Bandwidth	_ 1148 Hz/Px
Pause after meas.	0.0 s	Echo spacing	1 ms
Multiple series	Off		
Resolution		Turbo factor	5
Base resolution	128	EPI factor	32
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	Dhana akir	20
Interpolation	Off	Phase skip	30
Interpolation	OII	Ampl	100
PAT mode	None	BWDTH	200 3.1kHz
	0"	thickness	100
Prescan Normalize	Off	flip angle excit	90
Raw filter	Off	phase encoding	ON
Geometry		Maxwell compensation	Off
Series	Interleaved	ICE program	single
	·····	Phase skip	30
Sat. region 1		•	
Thickness	32 mm		

	\\USE	:R\Feinberglab\Tanja\201711	120_FOCI\BP_gra	ase_clean_VASO_V07_func	
TA: 5:24	PAT: Off	Voxel size: 1.5×1.5×1.5 mm	Rel. SNR: 1.00	USER: BP_grase_clean_VASO_V07_101	320

Contrast Magn. preparation TI 1450 ms Flip angle Fat suppr. Fat sat. Fat sat. mode B4;M2,3; Non-sel. 1450 ms 180 deg Fat suppr. Fat sat. Strong	Physio	None
Contrast Magn. preparation Non-sel.	Physio	
1		12 111111
Filter None	A >> P	48 mm 12 mm
TE 40.0 ms Averages 1 Concatenations 1	Orientation Rotation R >> L	Transversal 0.00 deg 192 mm
FoV phase 25.0 % Slice thickness 1.5 mm TR 4000 ms	Adjustment Tolerance Adjust volume Position	Auto R0.5 A5.4 H23.6
Slice oversampling 0.0 % Slices per slab 8 FoV read 192 mm	Confirm freq. adjustmer Assume Silicone ! Ref. amplitude 1H	
Phase enc. dir. A >> P Rotation 0.00 deg Phase oversampling 0 %	Auto Coil Select Shim mode Adjust with body coil	Default Standard Off
Slabs 1 Dist. factor 0 % Position R0.5 A5.4 Orientation Transvers	al AutoAlign	F >> H Off Adaptive Combine
Routine Slab group 1	Sagittal Coronal	R >> L A >> P
further preparation Wait for user to start Off Start measurements single	Positioning mode MSMA	FIX S - C - T
Load images to graphic Off segments Auto open inline display Off Start measurement without On	M2 B4 M3 V32	On On On Off
Load to viewer On Inline movie Off Auto store images On Load to stamp segments Off	Table position Inline Composing System T1	0 mm Off On
Properties Prio Recon Off Before measurement After measurement	Orientation Special sat. Table position	Coronal None H

Rel. SNR: 1.00

USER: ep2d_fid_VASO

Voxel size: 1.5x1.5x1.5 mm

TA: 5:36

PAT: 2

Б		Multi-slice mode	Interleaved
Properties		_ Series	Interleaved
Prio Recon	Off		
Before measurement		Special sat.	None
After measurement		Table position	
Load to viewer	On	Table position	H
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	05
5 .	Oli		On
segments	0"	M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation		V32	Off
Wait for user to start	Off	Desiries and	FIV
Start measurements	single	Positioning mode	FIX
- D - (*		MSMA	S - C - T
Routine		_ Sagittal	R >> L
Slice group 1		Coronal	A >> P
Slices	1	Transversal	F >> H
Dist. factor	50 %	Save uncombined	Off
Position	R1.3 A29.0 H30.4	Coil Combine Mode	Sum of Squares
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Auto Coil Select	Delauit
	0.00 deg 0 %	Shim mode	Standard
Phase oversampling		Adjust with body coil	Off
FoV read	250 mm	Confirm freq. adjustment	Off
FoV phase	100.0 %	Assume Silicone	Off
Slice thickness	1.5 mm		
TR	4000.0 ms	! Ref. amplitude 1H	230.000 V
TE 1	21 ms	Adjustment Tolerance	Auto
TE 2	21 ms	Adjust volume	
Averages	1	Position	R1.3 A29.0 H30.4
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
		R >> L	250 mm
Coil elements	B4;M2,3;T1	A >> P	250 mm
Contrast		F >> H	2 mm
MTC	Off	_	2 111111
Magn. preparation	Non-sel. IR	Physio	
TI	1450 ms	1st Signal/Mode	None
		1	
Flip angle	90 deg	Perf	
Fat suppr.	Fat sat.	GBP	Off
Averaging mode	Long term	PBP	Off
Reconstruction	Magnitude	TTP	Off
Measurements		Original images	On
	81		
Delay in TR	0 ms	Sequence	
Multiple series	Off	Introduction	Off
Resolution		Contrasts	2
Base resolution	166	Bandwidth	1204 Hz/Px
		Free echo spacing	Off
Phase resolution	100 %	Echo spacing	1 ms
Phase partial Fourier	5/8		
Interpolation	Off	EPI factor	166
PAT mode	CPAPPA	RF pulse type	Fast
	GRAPPA	Gradient mode	Fast
Accel. factor PE	2	1	 -
Ref. lines PE	24		
Reference scan mode	Separate		
Distortion Corr	O#		
Distortion Corr.	Off Off		
Prescan Normalize	Off		
Raw filter	Off		
Elliptical filter	Off		
Hamming	Off		
Coometry			
Geometry			

	\\USER\Fe	einberglab\Tanja\20171120_l	FOCI\BP_grase_o	clean_VASO_V08_func_TR3000
TA: 4:03	PAT: Off	Voxel size: 1.0×1.0×1.0 mm	Rel. SNR: 1.00	USER: BP_grase_clean_VASO_V08_101320

Properties		Position	R0.8 A15.8 H22.3	
Prio Recon	Off	Orientation	Coronal	
Before measurement		Special sat.	None	
After measurement		Table position	Н	
Load to viewer	On	Table position	0 mm	
Inline movie	Off	Inline Composing	Off	
Auto store images	On			
Load to stamp segments	Off	System		
Load images to graphic	Off	T1	On	
segments	Oli	M2	On	
Auto open inline display	Off	B4	On	
Start measurement without	On	M3	On	
	On	V32	Off	
further preparation	0#			
Wait for user to start	Off	Positioning mode	FIX	
Start measurements	single	MSMA	S - C - T	
Routine		Sagittal	R >> L	
Slab group 1		—— Coronal	A >> P	
Slabs	1	Transversal	F >> H	
Dist. factor	0 %	Save uncombined	Off	
Position	R0.8 A15.8 H22.3	Coil Combine Mode	Adaptive Combine	
		AutoAlign		
Orientation	Transversal	Auto Coil Select	Default	
Phase enc. dir.	A >> P			
Rotation	0.00 deg	Shim mode	Standard	
Phase oversampling	0 %	Adjust with body coil	Off	
Slice oversampling	0.0 %	Confirm freq. adjustment	Off	
Slices per slab	8	Assume Silicone	Off	
FoV read	128 mm	! Ref. amplitude 1H	230.000 V	
FoV phase	25.0 %	Adjustment Tolerance	Auto	
Slice thickness	1.0 mm	Adjust volume		
TR	3000 ms	Position	R0.8 A15.8 H22.3	
TE	41.0 ms	Orientation	Transversal	
Averages	1	Rotation	0.00 deg	
Concatenations	1	R >> L	128 mm	
Filter	None	A >> P	32 mm	
Coil elements	B4;M2,3;T1	F >> H	8 mm	
	21,1112,0,11	1	O IIIIII	
Contrast Magn. preparation	Non-sel. IR	Physio Physio	None	
TI	1100.0 ms	1st Signal/Mode	None	
		Composing		
Flip angle	180 deg			
Fat suppr.	Fat sat.	Sequence		
Fat sat. mode	Strong	Introduction	Off	
Averaging mode	Long term	Dimension	3D	
Reconstruction	Magnitude	Reordering	Centric	
Measurements	81	Contrasts	2	
Pause after meas.	0.0 s	Bandwidth	1148 Hz/Px	
Multiple series	Off	Echo spacing	1 ms	
•	311	Turbo factor	<i>5</i>	
Resolution			5	
Base resolution	128	EPI factor	32 Name 1	
Phase resolution	100 %	RF pulse type	Normal	
Slice resolution	100 %	Gradient mode	Fast	
Slice partial Fourier	5/8	Phase skip	30	
Interpolation	Off	Ampl	100	
		BWDTH	200 3.1kHz	
PAT mode	None	thickness	100	
Prescan Normalize	Off		90	
Raw filter	Off	flip angle excit		
Naw Inter	Sii	phase encoding	ON Off	
Geometry		Maxwell compensation	Off	
Series	Interleaved	ICE program	single	
		Phase skip	30	
Sat. region 1	00			
Thickness	32 mm			

\\USER\Feinberglab\Tanja\20171120_FOCI\BP_grase_clean_VASO_V08_func_TI1200_TR3000
TA: 4:03 PAT: Off Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V08_101320

Properties		Position	R0.8 A15.8 H22.3	
Prio Recon Off		Orientation	Coronal	
Before measurement		Special sat.	None	
After measurement		Table position	Н	
Load to viewer	On	Table position	0 mm	
Inline movie	Off	Inline Composing	Off	
Auto store images	On			
Load to stamp segments	Off	System		
Load images to graphic	Off	T1	On	
segments		M2	On	
Auto open inline display	Off	B4	On	
Start measurement without	On	M3	On	
further preparation	.	V32	Off	
Wait for user to start	Off	Positioning mode	FIX	
Start measurements	single	MSMA	S-C-T	
Otart measurements	Sirigio	_	R >> L	
Routine		Sagittal Coronal	A >> P	
Slab group 1				
Slabs	1	Transversal	F >> H	
Dist. factor	0 %	Save uncombined	Off	
Position	R0.8 A15.8 H22.3	Coil Combine Mode	Adaptive Combine	
Orientation	Transversal	AutoAlign	 D ()	
Phase enc. dir.	A >> P	Auto Coil Select	Default	
Rotation	0.00 deg	Shim mode	Standard	
Phase oversampling	0 %	Adjust with body coil	Off	
Slice oversampling	0.0 %	Confirm freq. adjustment	Off	
Slices per slab	8	Assume Silicone	Off	
FoV read	128 mm	! Ref. amplitude 1H	230.000 V	
FoV phase	25.0 %	Adjustment Tolerance	Auto	
Slice thickness	1.0 mm		Auto	
TR	3000 ms	Adjust volume	DO 0 A45 0 H22 2	
TE	41.0 ms	Position	R0.8 A15.8 H22.3	
		Orientation	Transversal	
Averages	1	Rotation	0.00 deg	
Concatenations	1	R >> L	128 mm	
Filter	None	A >> P	32 mm	
Coil elements	B4;M2,3;T1	F >> H	8 mm	
Contrast		Physio		
Magn. preparation	Non-sel. IR	1st Signal/Mode	None	
TI	1200.0 ms	Composing		
Flip angle	180 deg	Composing		
Fat suppr.	Fat sat.	Sequence		
Fat sat. mode	Strong	Introduction	Off	
Averaging mode	Long term	Dimension	3D	
Averaging mode Reconstruction		Reordering	Centric	
	Magnitude	Contrasts	2	
Measurements	81	Bandwidth	1148 Hz/Px	
Pause after meas.	0.0 s	Echo spacing	1 ms	
Multiple series	Off			
Resolution		Turbo factor	5	
Base resolution	128	EPI factor	32	
Phase resolution	100 %	RF pulse type	Normal	
Slice resolution	100 %	Gradient mode	Fast	
Slice partial Fourier	5/8	Dhoo akin	20	
Interpolation	Off	Phase skip	30	
		Ampl	100	
PAT mode	None	BWDTH	200 3.1kHz	
Droops Name die -	O#	thickness	100	
Prescan Normalize	Off	flip angle excit	90	
Raw filter	Off	phase encoding	ON	
Geometry		Maxwell compensation	Off	
Series	Interleaved	—— ICE program	single	
	·····	Phase skip	30	
Sat. region 1		·		
Thickness	32 mm			

\\USER\Feinberglab\Tanja\20171120_FOCI\BP_grase_clean_VASO_V08_func_TI1000_TR3000
TA: 4:03 PAT: Off Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V08_101320

Properties Prio Recon	Off	Position Orientation	R0.8 A15.8 H22.3 Coronal
Before measurement	OII	Special sat.	None
After measurement		Table position	H
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On	miline Composing	Oll
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments	Oil	M2	On
	Off	B4	On
Auto open inline display	On	M3	On
Start measurement without	On	V32	Off
further preparation	0"		
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S-C-T
Routine		Sagittal	R >> L
Slab group 1		—— Coronal	A >> P
Slabs	1	Transversal	F >> H
Dist. factor	0 %	Save uncombined	Off
Position	R0.8 A15.8 H22.3	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Chim made	Standard
Phase oversampling	0.00 deg 0 %	Shim mode	Standard
	0.0 %	Adjust with body coil	Off
Slice oversampling		Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	
TR	3000 ms	Position	R0.8 A15.8 H22.3
TE	41.0 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	128 mm
Filter	None	A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	1000.0 ms		None
Flip angle	180 deg	Composing	
-	Fat sat.	Comunica	
Fat suppr. Fat sat. mode	Strong	Sequence	0"
i at Sat. IIIOue		Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	81	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1148 Hz/Px
Multiple series	Off	Echo spacing	1 ms
-		Turbo factor	5
Resolution	400	EPI factor	32
Base resolution	128	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 %	·····	
Slice partial Fourier	5/8	Phase skip	30
Interpolation	Off	Ampl	100
PAT mode	None	BWDTH	200 3.1kHz
	140HG	thickness	100
Prescan Normalize	Off	flip angle excit	90
Raw filter	Off	phase encoding	ON
Coometry		Maxwell compensation	Off
Geometry	Interlege :	ICE program	single
Series	Interleaved	Phase skip	30
Sat. region 1			
Thickness	32 mm		
1			

\\USER\Feinberglab\Tanja\20171120_FOCI\BP_grase_clean_VASO_V08_func_TI900_TR3000
TA: 4:03 PAT: Off Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V08_101320

Properties		Position	R0.8 A15.8 H22.3
Prio Recon	Off	Orientation Special act	Coronal
Before measurement		Special sat.	None
After measurement		Table position	H
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		3
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
	Oli	M2	On
segments	0#	B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation			
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine		Sagittal	R >> L
		Coronal	A >> P
Slab group 1	4	Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	R0.8 A15.8 H22.3	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Auto Con Select	Delauit
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %		
Slice thickness	1.0 mm	Adjustment Tolerance	Auto
		Adjust volume	D0 0 445 0 1100 0
TR	3000 ms	Position	R0.8 A15.8 H22.3
TE	41.0 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	128 mm
Filter	None	A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI Ö İ	900.0 ms	-	
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
			_
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	81	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1148 Hz/Px
Multiple series	Off	Echo spacing	1 ms
•	-	Turbo factor	5
Resolution		EPI factor	32
Base resolution	128		Normal
Phase resolution	100 %	RF pulse type Gradient mode	
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	Phase skip	30
Interpolation		Ampl	100
	Off		100
			200 3 1447
PAT mode	Off None	BWDTH	200 3.1kHz
PAT mode	None	BWDTH thickness	100
PAT mode Prescan Normalize	None Off	BWDTH thickness flip angle excit	100 90
PAT mode	None	BWDTH thickness flip angle excit phase encoding	100 90 ON
PAT mode Prescan Normalize	None Off	BWDTH thickness flip angle excit phase encoding Maxwell compensation	100 90 ON Off
PAT mode Prescan Normalize Raw filter Geometry	None Off Off	BWDTH thickness flip angle excit phase encoding Maxwell compensation — ICE program	100 90 ON Off single
PAT mode Prescan Normalize Raw filter Geometry Series	None Off	BWDTH thickness flip angle excit phase encoding Maxwell compensation	100 90 ON Off
PAT mode Prescan Normalize Raw filter Geometry	None Off Off Interleaved	BWDTH thickness flip angle excit phase encoding Maxwell compensation — ICE program	100 90 ON Off single

\\USER\Feinberglab\Tanja\20171120_FOCI\BP_grase_clean_VASO_V08_func_TI700_TR3000
TA: 4:03 PAT: Off Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V08_101320

Properties		Position	R0.8 A15.8 H22.3
Prio Recon	Off	Orientation	Coronal
Before measurement		Special sat.	None
After measurement		Table position	Н
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		5 11
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
	Oli	M2	On
segments	0#	B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation	0"		
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine		Sagittal	R >> L
Slab group 1		Coronal	A >> P
Slabs	4	Transversal	F >> H
	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	R0.8 A15.8 H22.3	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P		
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	71010
TR	3000 ms	Position	R0.8 A15.8 H22.3
TE	41.0 ms	Orientation	Transversal
Averages	1		
Concatenations	1	Rotation	0.00 deg
	None	R >> L	128 mm
Filter		A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	700.0 ms	Composing	
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements		Contrasts	2
	81 0.0 s	Bandwidth	_ 1148 Hz/Px
Pause after meas.		Echo spacing	1 ms
Multiple series	Off		
Resolution		Turbo factor	5
Base resolution	128	EPI factor	32
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	Dhana chin	20
Interpolation	Off	Phase skip	30
	OII	Ampl	100
PAT mode	None	BWDTH	200 3.1kHz
		thickness	100
D 11 "		I flip angle avoit	90
Prescan Normalize	Off	flip angle excit	
Prescan Normalize Raw filter	Off Off	phase encoding	ON
Raw filter	_	phase encoding Maxwell compensation	ON Off
Raw filter Geometry	Off	phase encoding Maxwell compensation ICE program	ON
Raw filter	_	phase encoding Maxwell compensation	ON Off
Raw filter Geometry	Off	phase encoding Maxwell compensation ICE program	ON Off single

\\USER\Feinberglab\Tanja\20171120_FOCI\BP_grase_clean_VASO_V08_func_SNRboost TA: 12:30 PAT: Off Voxel size: 1.0×1.0×1.5 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V08_101320 Position R0.8 A15.8 H22.3 Properties Orientation Coronal Prio Recon Off Special sat. None Before measurement Table position After measurement On Table position Load to viewer 0 mm Inline movie Off Inline Composing Off Auto store images On System Load to stamp segments Off On T1 Load images to graphic Off M2 On segments В4 On Off Auto open inline display М3 On Start measurement without On V32 Off further preparation Wait for user to start Off Positioning mode FIX Start measurements single **MSMA** S-C-T 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 R0.8 A15.8 H22.3 AutoAlign Orientation Transversal Auto Coil Select Default Phase enc. dir. A >> P 0.00 deg Rotation Shim mode Standard Phase oversampling 0 % Adjust with body coil Off Slice oversampling 0.0 % Confirm freq. adjustment Off Slices per slab Assume Silicone Off FoV read 128 mm ! Ref. amplitude 1H 230.000 V FoV phase 25.0 % Adjustment Tolerance Auto Slice thickness 1.5 mm Adjust volume TR 3000 ms Position R0.8 A15.8 H22.3 TE 40.9 ms Orientation Transversal Averages Rotation 0.00 deg Concatenations 128 mm R >> L Filter None A >> P 32 mm Coil elements B4;M2,3;T1 F >> H 12 mm Contrast Physio Magn. preparation Non-sel. IR 1st Signal/Mode None 1100.0 ms Composing Flip angle 180 deg Fat suppr. Fat sat. Sequence Fat sat. mode Strong Off Introduction Dimension 3D Averaging mode Long term Reordering Centric Reconstruction Magnitude Contrasts 2 Measurements 250 Bandwidth 1148 Hz/Px 0.0 sPause after meas. Echo spacing 1 ms Multiple series Off Turbo factor 5 Resolution EPI factor 32 Base resolution 128 RF pulse type Normal Phase resolution 100 % Gradient mode Fast Slice resolution 100 % Slice partial Fourier 5/8 Phase skip 30 Interpolation Off Ampl 100 **BWDTH** 200 3.1kHz PAT mode None thickness 100 Prescan Normalize Off flip angle excit 90 Raw filter Off phase encoding ON Maxwell compensation Off Geometry ICE program single Series Interleaved Phase skip 30

Sat. region 1 Thickness

32 mm

\\USER\Feinberglab\Tanja\20171120_FOCI\AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol TA: 5:55 PAT: 2 Voxel size: 1.1×1.1×1.5 mm Rel. SNR: 1.00 USER: AV_ep2d_bold_sd_20140727

Properties		Special sat.	None
Prio Recon	Off	Table position	H
Before measurement		Table position	0 mm
After measurement		Inline Composing	Off
Load to viewer	On	Out and a second	
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	FIX
further preparation	3.1	MSMA	S-C-T
Wait for user to start	Off	Sagittal	R >> L
Start measurements	single	Coronal	A >> P
Ctart measurements	Single	Transversal	F >> H
Routine			
Slice group 1		Coil Combine Mode	Sum of Squares
Slices	44	AutoAlign	 D ()
Dist. factor	0 %	Auto Coil Select	Default
Position	R4.6 A29.2 H29.3	Shim mode	Standard
Orientation	Transversal	Adjust with body coil	Off
Phase enc. dir.	A >> P	Confirm freq. adjustment	On
Rotation	0.00 deg	Assume Silicone	Off
Phase oversampling	0.00 deg 0 %	! Ref. amplitude 1H	230.000 V
FoV read	164 mm		
	_	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	D 4 0 4 0 0 0 1 1 0 0 0
Slice thickness	1.50 mm	Position	R4.6 A29.2 H29.3
TR	2000 ms	Orientation	Transversal
TE	23.2 ms	Rotation	0.00 deg
Multi-band accel. factor	2	R >> L	164 mm
Filter	None	A >> P	164 mm
Coil elements	B4;M2,3;T1	F >> H	66 mm
Contrast		Physio	
MTC	Off	1st Signal/Mode	None
Magn. preparation	None		
Flip angle	55 deg	BOLD	
Fat suppr.	Fat sat.	GLM Statistics	On
		Dynamic t-maps	Off
Averaging mode	Long term	Starting ignore meas	0
Reconstruction	Magnitude	Ignore after transition	0
Measurements	162	Model transition states	On
Delay in TR	0 ms	Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
Resolution		Paradigm size	16
Base resolution	150	– Meas[1]	Baseline
		Meas[2]	Baseline
Phase resolution	100 %	Meas[3]	Baseline
Phase partial Fourier	5/8	Meas[4]	Baseline
Interpolation	Off	Meas[5]	Baseline
PAT mode	GRAPPA	Meas[6]	Baseline
Accel. factor PE	2	Meas[7]	Baseline
Ref. lines PE	56	Meas[8]	Baseline
Reference scan mode	GRE	Meas[9]	Active
reference Scarrifficate	GINE		
Distortion Corr.	Off	Meas[10]	Active
Prescan Normalize	Off	Meas[11]	Active
Raw filter	On	Meas[12]	Active
Elliptical filter	Off	Meas[13]	Active
Hamming	Off	Meas[14]	Active
	∵	Meas[15]	Active
-			
Geometry		Meas[16]	Active
-	Interleaved		Active Off Off

Sequence

Off
1076 Hz/Px
No
Off
1.05 ms
1
150
Normal
Off
OII
5820 us
1
0 1/FoV
0
0
0
0
1
0
0
On
Off
Online
0.20
12.0 deg
Never
Standard
0
2
1
1
0

 $\label{localizer_200V} $$\USER\Feinberglab\Tanja\20171120_FOCI\localizer_200V $$$ Voxel size: 1.2×1.1×3.0 mm Rel. SNR: 1.00

SIEMENS: gre

TA: 0:16

PAT: 2

171. 0.10	7(1. Z VOXOI 3120. 1.2X1.1X0	.o min red. Orak. 1.00 O	
Properties		Phase resolution Phase partial Fourier	90 % 6/8
Prio Recon	Off	Interpolation	On
Before measurement		interpolation	
After measurement		PAT mode	GRAPPA
Load to viewer	On	Accel, factor PE	2
Inline movie	Off	Ref. lines PE	24
Auto store images	On	Reference scan mode	Integrated
		Reference scarrinode	integrated
Load to stamp segments	On	Image Filter	Off
Load images to graphic	On	Distortion Corr.	Off
segments		Prescan Normalize	Off
Auto open inline display	Off	Normalize	Off
Start measurement without	On	B1 filter	Off
further preparation			
Wait for user to start	Off	Raw filter	Off
Start measurements	single	Elliptical filter	Off
	3 -	Geometry	
Routine		Multi-slice mode	Sequential
Slice group 1		Series	Interleaved
Slices	5	Series	interieaved
Dist. factor	200 %	Saturation mode	Standard
Position	Isocenter	Special sat.	None
Orientation	Sagittal		
Phase enc. dir.	A >> P		
		Table position	H
Rotation	0.00 deg	Table position	0 mm
Slice group 2	_	Inline Composing	Off
Slices	5	Time OT made	O#
Dist. factor	200 %	Tim CT mode	Off
Position	Isocenter	System	
Orientation	Coronal	T1	On
Phase enc. dir.	R >> L		_
Rotation	0.00 deg	M2	On
Slice group 3	0.00 409	B4	On
Slices	5	M3	On
		V32	Off
Dist. factor	200 %	Desitioning mode	FIV
Position	Isocenter	Positioning mode	FIX
Orientation	Transversal	MSMA	S - C - T
Phase enc. dir.	A >> P	Sagittal	R >> L
Rotation	0.00 deg	Coronal	A >> P
Phase oversampling	0 %	Transversal	F >> H
FoV read	280 mm	Save uncombined	Off
FoV phase	100.0 %	Coil Combine Mode	Adaptive Combine
Slice thickness	3.0 mm	AutoAlign	
		Auto Coil Select	Off
TR	10.0 ms	Auto Coll Gelect	
TE	3.00 ms	Shim mode	Tune up
Averages	1	Adjust with body coil	Off
Concatenations	15	Confirm freq. adjustment	Off
Filter	None	Assume Silicone	Off
Coil elements	B4;M2,3;T1	! Ref. amplitude 1H	200.000 V
		·	
Contrast		Adjustment Tolerance	Auto
TD	0 ms	Adjust volume	
MTC	Off	Position	Isocenter
Magn. preparation	None	Orientation	Transversal
Flip angle	10 deg	Rotation	0.00 deg
Fat suppr.	None	R >> L	350 mm
Water suppr.	None	A >> P	263 mm
SWI	Off	F >> H	350 mm
SVVI	OII		550 Hilli
Averaging mode	Short term	Physio	
Reconstruction	Magnitude	1st Signal/Mode	None
Measurements	1	Segments	1
	Fach measurement		·
Multiple series	Each measurement	Tagging	None
Resolution		Dark blood	Off
Base resolution	256		
Dago rogolation	200	Resp. control	Off

Inline

Subtract Liver registration Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra Std-Dev-Time MIP-Sag MIP-Cor MIP-Tra MIP-Time	Off
Save original images Wash - In Wash - Out TTP PEI MIP - time MapIt Contrasts	On Off Off Off Off Off Off Off Off

Sequence

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

		m Rel. SNR: 1.00 USER:	: b1map_658
Properties		M3	On O"
Prio Recon	Off	_ V32	Off
Before measurement		Positioning mode	REF
After measurement		MSMA	S - C - T
Load to viewer	On	Sagittal	R >> L
Inline movie	Off	Coronal	A >> P
Auto store images	On	Transversal	F >> H
Load to stamp segments	Off	Save uncombined	Off
Load images to graphic	Off	Coil Combine Mode	Adaptive Combine
segments		AutoAlign	'
Auto open inline display	Off	Auto Coil Select	Default
Start measurement without	On		<u>-</u>
further preparation		Shim mode	Tune up
Wait for user to start	Off	Adjust with body coil	Off
Start measurements	single	Confirm freq. adjustment	Off
	Sg.s	Assume Silicone	Off
Routine		! Ref. amplitude 1H	230.000 V
Slice group 1		Adjustment Tolerance	Auto
Slices	8	Adjust volume	
Dist. factor	200 %	Position	Isocenter
Position	L0.0 A28.5 F5.4	Orientation	Transversal
Orientation	Transversal	Rotation	0.00 deg
Phase enc. dir.	A >> P	R >> L	350 mm
Rotation	0.00 deg	A >> P	263 mm
FoV read	250 mm	F >> H	350 mm
FoV phase	100.0 %	Commonina	
Slice thickness	5 mm	Composing	
TR	1000 ms	Sequence	
TE 1	14 ms	Contrasts	2
TE 2	14 ms	Bandwidth	260.416667 Hz/Px
Averages	1		
Filter	None	T1 Compensation	Mean T1
Coil elements	B4;M2,3;T1	Mean T1	1800.0 ms
0		Angles	1
Contrast	00.1	Amplitude Weighting	Linear
Flip angle 1	90 deg	Scale Bar	Enabled
Flip angle 2	120 deg	Raw Data	Disabled
Flip angle 3	60 deg		
Flip angle 4	135 deg		
Flip angle 5	45 deg		
Measurements	1		
Resolution		<u> </u>	
Base resolution	64		
Phase resolution	100 %		
Raw filter	Off		
Geometry Series	Ascending	_	
	,		
Navigator 1			
Position	L0.0 A22.9 F8.8		
Orientation	Transversal		
Rotation	0.00 deg		
Base size phase	40 mm		
Base size read	40 mm		
Thickness	40 mm		
Table position	Н		
Table position	П 0 mm		
Inline Composing	Off		
System			
T1	On	-	
M2 B4	On On		

\\USER\Feinberglab\Tanja\20171120_FOCI\AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol TA: 5:56 PAT: 2 Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00 USER: AV_ep2d_bold_sd_20140727

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	0	
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	FIX
further preparation		MSMA	S - C - T
Wait for user to start	Off	Sagittal	R >> L
Start measurements	single	Coronal	A >> P
	5g.c	Transversal	F >> H
Routine		- Coil Combine Mode	Sum of Squares
Slice group 1		AutoAlign	
Slices	44	Auto Coil Select	Default
Dist. factor	0 %	Auto Coll Select	Delauit
Position	R4.6 A29.2 H29.3	Shim mode	Standard
Orientation	Transversal	Adjust with body coil	Off
Phase enc. dir.	A >> P	Confirm freq. adjustment	On
Rotation	0.00 deg	Assume Silicone	Off
Phase oversampling	0 %	! Ref. amplitude 1H	230.000 V
FoV read	150 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	
Slice thickness	1.00 mm	Position	R4.6 A29.2 H29.3
TR	2000 ms	Orientation	Transversal
TE	24.2 ms	Rotation	0.00 deg
Multi-band accel. factor	2	R >> L	150 mm
Filter	None	A >> P	150 mm
Coil elements	B4;M2,3;T1	F >> H	44 mm
	_ 1,,0,1	ı	77 111111
Contrast MTC	Off	Physio	None
Magn. preparation	None	1st Signal/Mode	None
Flip angle	55 deg	BOLD	
Fat suppr.	Fat sat.	GLM Statistics	On
	Fat 5at.	Dynamic t-maps	Off
Averaging mode	Long term	Starting ignore meas	0
Reconstruction	Magnitude	Ignore after transition	0
Measurements	162	Model transition states	On
Delay in TR	0 ms	Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
•		Paradigm size	16
Resolution	450	- Meas[1]	Baseline
Base resolution	150	Meas[2]	Baseline
Phase resolution	100 %	Meas[3]	Baseline
Phase partial Fourier	5/8	Meas[4]	Baseline
Interpolation	Off	Meas[5]	Baseline
PAT mode	GRAPPA	Meas[6]	Baseline
Accel. factor PE	2	Meas[7]	Baseline
			Baseline Baseline
Ref. lines PE	56 CRE	Meas[8]	
Reference scan mode	GRE	Meas[9]	Active
Distortion Corr.	Off	Meas[10]	Active
Prescan Normalize	Off	Meas[11]	Active
Raw filter	On	Meas[12]	Active
Elliptical filter	Off	Meas[13]	Active
Hamming	Off	Meas[14]	Active
-	U II	Meas[15]	Active
		Meas[16]	Active
Beometry			
Geometry Multi-slice mode	Interleaved	Motion correction Spatial filter	Off Off

Sequence

Sequence	
Introduction	Off
Bandwidth	1076 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	1.07 ms
SIR accel. factor	1
EPI factor	150
Gradient mode	Normal
RF spoiling	Off
Excite pulse duration	5820 us
Slice multiplier	1
Multi-band PE shift	0 1/FoV
zBlip scheme	0
MB kernel size	0
MB knockout band	0
No. of interleaved TEs	0
RF pulse shape	1
EPI noise scans	0
EPI full reference scan	0
Single-band images	On
MB RF phase scramble	Off
SENSE1 coil combine	Off
Log physiology to file	Off
Invert RO/PE polarity	Off
Save reduced raw data	Off
Readout slice trace	Off
Disable ramp sampling	Off
PF omits higher k-space	Off
Online multi-band recon.	Online
FFT scale factor	0.20
GRE iPAT ref. FA	12.0 deg
Send B1 shim trigger	Never
Triggering scheme	Standard
Starting ignore meas	0
Paradigm size	2
Multiplier	1
Step [1]	1
Step [2]	0
1	

\\USER\Fein	berglab\Tanja\20171120_	FOCI\BP_grase_clean_VASC)_V07_TI1450
	·	•	ase_clean_VASO_V07_101320
Dranartia		Position	L0.8 A5.4 F6.7
Properties	0#	Orientation	Coronal
Prio Recon	Off	Special sat.	None
Before measurement After measurement		Table position	H
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		Oli
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments		M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On O"
further preparation		V32	Off
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine	-	Sagittal	R >> L
		— Coronal	A >> P
Slab group 1 Slabs	1	Transversal	F >> H
Dist. factor	0 %	Save uncombined	Off
Position	R0.5 A5.4 H23.6	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	Auto
TR	4000 ms	Position	R0.5 A5.4 H23.6
TE	41.0 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	128 mm
Filter	None	A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	1450 ms	1	
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long torm	Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction Measurements	Magnitude 81	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1148 Hz/Px
Multiple series	Off	Echo spacing	1 ms
·	Oli	Turbo factor	<i>E</i>
Resolution	100	EPI factor	5 32
Base resolution	128	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 % 5/8		
Slice partial Fourier	5/8 Off	flip angle excit	90
Interpolation	Off	phase encoding	ON
PAT mode	None	Maxwell compensation	Off
Process Normaliza	Off	ICE program	single
Prescan Normalize Raw filter	Off Off	prepscans	0
DAW HILE	UII		

Series	Interleaved
Sat. region 1	
Thickness	32 mm

Raw filter Geometry Off

\\USER\Fein	berglab\Tanja\2 <mark>01711</mark> 20_	_FOCI\BP_grase_clean_VASC)_V07_TI1250
A: 5:24 PAT: Off Voxe	el size: 1.0×1.0×1.0 mm F	Rel. SNR: 1.00 USER: BP_gra	ase_clean_VASO_V07_101320
Properties		Position	L0.8 A5.4 F6.7
Prio Recon	Off	— Orientation	Coronal
Before measurement	311	Special sat.	None
After measurement		Table position	Н
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On	System	
Load to stamp segments	Off	System 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			
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine		Sagittal	R >> L
Slab group 1		— Coronal	A >> P
Slabs	1	Transversal	F >> H
Dist. factor	0 %	Save uncombined	Off
Position	R0.5 A5.4 H23.6	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	
TR	4000 ms	Position	R0.5 A5.4 H23.6
TE	41.0 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	128 mm
Filter	None	A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast		Dhysia	
Magn. preparation	Non-sel. IR	Physio 1st Signal/Mode	None
TI	1250 ms	1st Signal/Mode	None
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
		Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction	Magnitude	Contrasts	2
Measurements	81	Bandwidth	1148 Hz/Px
Pause after meas.	0.0 s	Echo spacing	1 ms
Multiple series	Off		
Resolution		Turbo factor	5
Base resolution 128		EPI factor	32
Phase resolution 100 %		RF pulse type	Normal
Slice resolution 100 %		Gradient mode	Fast
Slice partial Fourier 5/8		flip angle excit	90
Interpolation			ON
		phase encoding Maxwell compensation	Off
PAT mode	None	ICE program	single
Prescan Normalize Off		prepscans	0

Prescan Normalize	Off
Raw filter	Off
Geometry	
Series	Interleaved
Sat. region 1	
Thickness	32 mm
	5

prepscans

\\USER\Fein	berglab\Tanja\20171120_	FOCI\BP_grase_clean_VASC)_V07_TI1050
TA: 5:24 PAT: Off Vox	el size: 1.0×1.0×1.0 mm R	tel. SNR: 1.00 USER: BP_gra	ase_clean_VASO_V07_101320
Properties		Position	L0.8 A5.4 F6.7
Prio Recon	Off	— Orientation	Coronal
Before measurement	0.11	Special sat.	None
After measurement		Table position	H
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On	Custom	
Load to stamp segments	Off	System	
Load images to graphic	Off	T1 M2	On On
segments		B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation		V32	
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
Routine		Sagittal	R >> L
Slab group 1		— Coronal	A >> P
Slabs	1	Transversal	F >> H
Dist. factor	0 %	Save uncombined	Off
Position	R0.5 A5.4 H23.6	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.0 mm	Adjust volume	
TR	4000 ms	Position	R0.5 A5.4 H23.6
TE	41.0 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	128 mm
Filter	None	A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	1050 ms	1	None
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
		Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction	Magnitude	Contrasts	2
Measurements	81	Bandwidth	1148 Hz/Px
Pause after meas.	0.0 s	Echo spacing	1 ms
Multiple series	Off		
Resolution		Turbo factor	5
Base resolution	128	EPI factor	32 Name of
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode Fast	
Slice partial Fourier	5/8	flip angle excit	90
Interpolation	Off	phase encoding	ON
PAT mode	None	Maxwell compensation	Off
		ICE program	single
Prescan Normalize	Off	prepscans	0
Raw filter	Off	•	

Interleaved

32 mm

Raw filter
Geometry
Series

Sat. region 1 Thickness

	nberglab\Tanja\20171120_F el size: 1.0×1.0×1.0 mm Rel.	•	D_V07_TI850 ase_clean_VASO_V07_1013	
Properties		Position	L0.8 A5.4 F6.7	
Prio Recon	Off	- Orientation	Coronal	
Before measurement		Special sat.	None	
After measurement		Table position	Н	
Load to viewer	On	Table position	0 mm	
Inline movie	Off	Inline Composing	Off	
Auto store images	On	System		
Load to stamp segments	Off	T1	On	
Load images to graphic	Off	M2	On On	
segments		B4	On	
Auto open inline display	Off	M3	On	
Start measurement without	On	V32	Off	
further preparation		V 32	OII	
Wait for user to start	Off	Positioning mode	FIX	
Start measurements	single	MSMA	S - C - T	
Routine		Sagittal	R >> L	
Slab group 1		- Coronal	A >> P	
Slabs	1	Transversal	F >> H	
Dist. factor 0 %		Save uncombined	Off	
Position	R0.5 A5.4 H23.6	Coil Combine Mode	Adaptive Combine	
Orientation Transversal		AutoAlign		
Phase enc. dir. A >> P		Auto Coil Select	Default	
Rotation	0.00 deg	Chim mada	Ctondord	
Phase oversampling	0.00 deg 0 %	Shim mode	Standard Off	
Slice oversampling	0.0 %	Adjust with body coil Confirm freq. adjustment	Off	
Slices per slab	8	Assume Silicone	Off	
FoV read	128 mm	! Ref. amplitude 1H	230.000 V	
FoV phase	25.0 %	Adjustment Tolerance	Auto	
Slice thickness	1.0 mm	Adjust volume	Auto	
TR	4000 ms	Position	R0.5 A5.4 H23.6	
TE	41.0 ms	Orientation	Transversal	
Averages	1	Rotation	0.00 deg	
Concatenations	1	R >> L	128 mm	
Filter	None	A >> P	32 mm	
Coil elements	B4;M2,3;T1	F >> H 8 mm		
Contrast		Physio		
Magn. preparation	Non-sel. IR	1st Signal/Mode	None	
TI Ö İ İ	850 ms			
Flip angle	180 deg	Composing		
Fat suppr. Fat sat.		Sequence		

Contrast			
Magn. preparation	Non-sel. IR		
TI	850 ms		
Flip angle	180 deg		
Fat suppr.	Fat sat.		
Fat sat. mode	Strong		
Averaging mode	Long term		
Reconstruction	Magnitude		
Measurements	81		
Pause after meas.	0.0 s		
Multiple series	Off		
Resolution			
Base resolution	128		
Phase resolution	100 %		
Slice resolution	100 %		
Slice partial Fourier	5/8		
Interpolation	Off		

Sequence		
Introduction	Off	
Dimension	3D	
Reordering	Centric	
Contrasts	2	
Bandwidth	1148 Hz/Px	
Echo spacing	1 ms	
Turbo factor	5	
EPI factor	32	
RF pulse type	Normal	
Gradient mode	Fast	
flip angle excit	90	
phase encoding	ON	
Maxwell compensation	Off	
ICE program	single	
prepscans	0	

Geometry

PAT mode

Raw filter

Prescan Normalize

· · · · · · · · · · · · · · · · ·		
Series	Interleaved	
Sat. region 1		
Thickness	32 mm	

None Off

Off

\\USER\Feinberglab\Tanja\20171120_FOCI\BP_grase_clean_VASO_V07_SNRboost

Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00

TA: 16:40

USER: BP_grase_clean_VASO_V07_101320

Properties		Position Orientation	L0.8 A5.4 F6.7 Coronal
Prio Recon	Off	Special sat.	None
Before measurement			
After measurement		Table position	Н
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
	Oli	M2	On
segments	0"	B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation		V 32	
Wait for user to start	Off	Positioning mode	FIX
Start measurements	single	MSMA	S - C - T
	5g.5	Sagittal	R >> L
outine			
Slab group 1		Coronal .	A >> P
Slabs	1	Transversal	F >> H
Dist. factor	0 %	Save uncombined	Off
Position	R0.5 A5.4 H23.6	Coil Combine Mode	Adaptive Combine
		AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P		
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	128 mm	! Ref. amplitude 1H	230.000 V
FoV phase	25.0 %		
Slice thickness		Adjustment Tolerance	Auto
	1.0 mm	Adjust volume	
TR	4000 ms	Position	R0.5 A5.4 H23.6
TE	41.0 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	128 mm
Filter	None	A >> P	32 mm
Coil elements	B4;M2,3;T1	F >> H	8 mm
Contrast	, ,-,	Physio	• · · · · · · · · · · · · · · · · · · ·
Magn. preparation	Non-sel. IR		Nana
		1st Signal/Mode	None
TI	1450 ms	Composing	
Flip angle	180 deg	g	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Λ		Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction	Magnitude	Contrasts	2
Measurements	250		2 1148 Hz/Px
Pause after meas.	0.0 s	Bandwidth	
Multiple series	Off	Echo spacing	1 ms
esolution		Turbo factor	5
Base resolution	128	EPI factor	32
Phase resolution	100 %	RF pulse type	Normal
		Gradient mode	Fast
Slice resolution	100 %		
Slice partial Fourier	5/8	flip angle excit	90
Interpolation	Off	phase encoding	ON
PAT mode	None	Maxwell compensation	Off
		ICE program	single
Prescan Normalize	Off	prepscans	0
Raw filter	Off	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Seometry			
Series	Interleaved		
Cat ragion 1			
Sat. region 1 Thickness	32 mm		
	.5Z IIIIII		

	\\USER\Fe	einberglab\Tanja\20171204_f	fociTest\grase_V <i>F</i>	ASO_V08_TI37_PS30_TR10000
TA: 0:50	PAT: Off	Voxel size: 1.0×1.0×1.0 mm	Rel. SNR: 1.00	USER: BP_grase_clean_VASO_V08_101320

Properties		Sat. region 1		
Prio Recon	Off	Thickness	32 mm	
Before measurement	0.11	Position	R0.8 A15.8 H22.3	
After measurement		Orientation	Coronal	
Load to viewer	On	Special sat.	None	
Inline movie	Off			
Auto store images	On	Table position	Н	
Load to stamp segments	Off	Table position	0 mm	
Load to stamp segments Load images to graphic	Off	Inline Composing	Off	
	Oii			
segments	0#	System		
Auto open inline display	Off	T1	On	
Start measurement without	On	M2	On	
further preparation	0"	B4	On	
Wait for user to start	Off	M3	On	
Start measurements	single	V32	Off	
Routine		Positioning mode	FIX	
Slab group 1		MSMA	S - C - T	
Slabs	1	Sagittal	R >> L	
Dist. factor	0 %	Coronal	A >> P	
Position	R0.8 A15.8 H22.3	Transversal	F >> H	
Orientation	Transversal	Save uncombined	Off	
Phase enc. dir.	A >> P	Coil Combine Mode	Adaptive Combine	
Rotation	0.00 deg	AutoAlign		
Phase oversampling	0 %	Auto Coil Select	Default	
Slice oversampling	0.0 %			
Slices per slab	8	Shim mode	Standard	
FoV read	128 mm	Adjust with body coil	Off	
FoV phase	25.0 %	Confirm freq. adjustment	Off	
Slice thickness	1.0 mm	Assume Silicone	Off	
TR	10000 ms	! Ref. amplitude 1H	230.000 V	
TE		Adjustment Tolerance	Auto	
	41.0 ms	Adjust volume		
Averages	1	Position	R0.8 A15.8 H22.3	
Concatenations	1	Orientation	Transversal	
Filter	None	Rotation	0.00 deg	
Coil elements	B4;M2,3;T1	R >> L	128 mm	
Contrast		A >> P	32 mm	
Magn. preparation	Non-sel. IR	-	8 mm	
TI	37.0 ms	1 >> 11	0 111111	
Flip angle	180 deg	Physio		
;	Fat sat.	1st Signal/Mode	None	
Fat suppr. Fat sat. mode	Strong	,		
		Composing		
Averaging mode	Long term	Sequence		
Reconstruction	Magnitude	Introduction	Off	
Measurements	5	Dimension	3D	
Pause after meas. 1	0.0 s	Reordering	Centric	
Pause after meas. 2	0.0 s	Contrasts	2	
Pause after meas. 3	0.0 s	Bandwidth	1148 Hz/Px	
Pause after meas. 4	0.0 s	Echo spacing	1 ms	
Multiple series	Off	Turbo factor		
Resolution		EPI factor	5 32	
Base resolution	128	RF pulse type	Normal	
Phase resolution	100 %	Gradient mode	Fast	
Slice resolution	100 %	Gradient mode	га э ।	
Slice partial Fourier	5/8	Phase skip	30	
Interpolation	Off	Ampl	100	
	○ II	BWDTH	200 3.1kHz	
PAT mode	None	thickness	100	
Donas and P	0"	flip angle excit	90	
Prescan Normalize	Off	phase encoding	ON	
Raw filter	Off	Maxwell compensation	Off	
Geometry		ICE program	single	
, ,		I IOL DIQUIAIII	SILICIE	
Series	Interleaved	Phase skip	30	

	\\USER\Fe	einberglab\Tanja\20171204_f	fociTest\grase_V	ASO_V08_TI37_PS60_TR10000
TA: 0:50	PAT: Off	Voxel size: 1.0×1.0×1.0 mm	Rel. SNR: 1.00	USER: BP_grase_clean_VASO_V08_101320

Properties		Sat. region 1	
Prio Recon	Off	_ Thickness	32 mm
Before measurement		Position	R0.8 A15.8 H22.3
After measurement		Orientation	Coronal
Load to viewer	On	Special sat.	None
Inline movie	Off		
Auto store images	On	Table position	Н
Load to stamp segments	Off	Table position	0 mm
Load images to graphic	Off	Inline Composing	Off
	Oii	•	
segments	0#	System	
Auto open inline display	Off	T1	On
Start measurement without	On	M2	On
further preparation	0"	B4	On
Wait for user to start	Off	M3	On
Start measurements	single	V32	Off
Routine		Positioning mode	FIX
Slab group 1		MSMA	S - C - T
Slabs	1	Sagittal	R >> L
Dist. factor	0 %	Coronal	A >> P
Position	R0.8 A15.8 H22.3	Transversal	F >> H
Orientation	Transversal	Save uncombined	Off
Phase enc. dir.	A >> P	Coil Combine Mode	Adaptive Combine
Rotation	0.00 deg	AutoAlign	
Phase oversampling	0 %	Auto Coil Select	Default
Slice oversampling	0.0 %		
Slices per slab	8	Shim mode	Standard
FoV read	128 mm	Adjust with body coil	Off
FoV phase	25.0 %	Confirm freq. adjustment	Off
Slice thickness	1.0 mm	Assume Silicone	Off
TR	10000 ms	! Ref. amplitude 1H	230.000 V
TE	41.0 ms	Adjustment Tolerance	Auto
		Adjust volume	
Averages	1	Position	R0.8 A15.8 H22.3
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	128 mm
Contrast		A >> P	32 mm
Magn. preparation	Non-sel. IR	-	8 mm
TI	37.0 ms	1 >> 11	0 111111
Flip angle	180 deg	Physio	
Fat suppr.	Fat sat.	1st Signal/Mode	None
Fat sat. mode	Strong	Composing	
Averaging mode	Long term		
Reconstruction	Magnitude	Sequence	0"
Measurements	5	Introduction	Off
Pause after meas. 1	o 0.0 s	Dimension	3D
Pause after meas. 1 Pause after meas. 2		Reordering	Centric
	0.0 s	Contrasts	2
Pause after meas. 3	0.0 s	Bandwidth	1148 Hz/Px
Pause after meas. 4	0.0 s	Echo spacing	1 ms
Multiple series	Off	Turbo factor	5
Resolution		_ EPI factor	32
Base resolution	128	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 %		
Slice partial Fourier	5/8	Phase skip	60
	Off	Ampl	100
		BWDTH	200 3.1kHz
Interpolation		D11D111	
	None	thickness	100
Interpolation PAT mode			100 90
Interpolation PAT mode Prescan Normalize	Off	thickness flip angle excit	
Interpolation PAT mode		thickness flip angle excit phase encoding	90
Interpolation PAT mode Prescan Normalize	Off	thickness flip angle excit	90 ON

	\\USER\Fe	inberglab\Tanja\20171204_f	ociTest\grase_VA	SO_V08_TI200_PS30_TR10000
TA: 0:50	PAT: Off	Voxel size: 1.0x1.0x1.0 mm	Rel. SNR: 1.00	USER: BP_grase_clean_VASO_V08_101320

Properties		Sat. region 1		
Prio Recon	Off	Thickness	32 mm	
Before measurement		Position	L0.6 P7.2 H2.8	
After measurement		Orientation	Coronal	
Load to viewer	On	Special sat.	None	
Inline movie	Off			
Auto store images	On	Table position	Н	
Load to stamp segments	Off	Table position	0 mm	
Load images to graphic	Off	Inline Composing	Off	
segments	.	System		
Auto open inline display	Off	T1	On	
Start measurement without	On	M2	On	
further preparation	Oli	B4	On	
Wait for user to start	Off		_	
Start measurements	single	M3	On O#	
Start measurements	Sirigie	V32	Off	
Routine		Positioning mode	FIX	
Slab group 1		MSMA	S - C - T	
Slabs	1	Sagittal	R >> L	
Dist. factor	0 %	Coronal	A >> P	
Position	L0.6 P7.2 H2.8	Transversal	F >> H	
Orientation	Transversal	Save uncombined	Off	
Phase enc. dir.	A >> P	Coil Combine Mode	Adaptive Combine	
Rotation	0.00 deg	AutoAlign		
Phase oversampling	0 %	Auto Coil Select	Default	
Slice oversampling	0.0 %	Chim made	Ctondord	
Slices per slab	8	Shim mode	Standard	
FoV read	128 mm	Adjust with body coil	Off	
FoV phase	25.0 %	Confirm freq. adjustment	Off	
Slice thickness	1.0 mm	Assume Silicone	Off	
TR	10000 ms	! Ref. amplitude 1H	200.000 V	
TE	41.0 ms	Adjustment Tolerance	Auto	
Averages	1	Adjust volume		
Concatenations	1	Position	L0.6 P7.2 H2.8	
Filter	None	Orientation	Transversal	
Coil elements	B4;M2,3;T1	Rotation	0.00 deg	
	, , , ,	R >> L	128 mm	
Contrast		A >> P	32 mm	
Magn. preparation	Non-sel. IR	F >> H	8 mm	
TI	200.0 ms	Physio		
Flip angle	180 deg		None	
Fat suppr.	Fat sat.	1st Signal/Mode	None	
Fat sat. mode	Strong	Composing		
Averaging mode	Long term	Soguence		
Reconstruction	Magnitude	Sequence	Off	
Measurements	5	Introduction	Off	
Pause after meas. 1	0.0 s	Dimension	3D Contrin	
Pause after meas. 2	0.0 s	Reordering	Centric	
Pause after meas. 3	0.0 s	Contrasts	2	
		Bandwidth	1148 Hz/Px	
Pause after meas. 4	0.0 s	Echo spacing	1 ms	
Multiple series	Off	Turbo factor	5	
Resolution		EPI factor	32	
Base resolution	128	RF pulse type	Normal	
Phase resolution	100 %	Gradient mode	Fast	
Slice resolution	100 %			
Slice partial Fourier	5/8	Phase skip	30	
Interpolation	Off	Ampl	100	
		BWDTH	200 3.1kHz	
	None	thickness	100	
PAT mode	NOTIC			
		flip angle excit	90	
Prescan Normalize	Off	flip angle excit	90 ON	
		phase encoding	ON	
Prescan Normalize	Off			

\\USER\Feinberglab\Tanja\20171204_fociTest\grase_VASO_V08_TI200_PS60_TR10000					
TA: 0:50	PAT: Off	Voxel size: 1.0x1.0x1.0 mm	Rel. SNR: 1.00	USER: BP_grase_clean_VASO_V08_101320	

Properties		Sat. region 1		
Prio Recon	Off	Thickness	32 mm	
Before measurement		Position	L0.6 P7.2 H2.8	
After measurement		Orientation	Coronal	
Load to viewer	On	Special sat.	None	
Inline movie	Off			
Auto store images	On	Table position	Н	
Load to stamp segments	Off	Table position	0 mm	
Load images to graphic	Off	Inline Composing	Off	
segments	.	System		
Auto open inline display	Off	T1	On	
Start measurement without	On	M2	On	
further preparation	On	B4	On	
Wait for user to start	Off		On	
Start measurements	single	M3	_	
Start measurements	Sirigie	V32	Off	
Routine		Positioning mode	FIX	
Slab group 1		MSMA	S - C - T	
Slabs	1	Sagittal	R >> L	
Dist. factor	0 %	Coronal	A >> P	
Position	L0.6 P7.2 H2.8	Transversal	F >> H	
Orientation	Transversal	Save uncombined	Off	
Phase enc. dir.	A >> P	Coil Combine Mode	Adaptive Combine	
Rotation	0.00 deg	AutoAlign		
Phase oversampling	0 %	Auto Coil Select	Default	
Slice oversampling	0.0 %	Chim made	Ctondord	
Slices per slab	8	Shim mode	Standard	
FoV read	128 mm	Adjust with body coil	Off	
FoV phase	25.0 %	Confirm freq. adjustment	Off	
Slice thickness	1.0 mm	Assume Silicone	Off	
TR	10000 ms	! Ref. amplitude 1H	230.000 V	
TE	41.0 ms	Adjustment Tolerance	Auto	
Averages	1	Adjust volume		
Concatenations	1	Position	L0.6 P7.2 H2.8	
Filter	None	Orientation	Transversal	
Coil elements	B4;M2,3;T1	Rotation	0.00 deg	
	, ,-,	R >> L	128 mm	
Contrast		A >> P	32 mm	
Magn. preparation	Non-sel. IR	F >> H	8 mm	
TI	200.0 ms	Physio		
Flip angle	180 deg		None	
Fat suppr.	Fat sat.	1st Signal/Mode	None	
Fat sat. mode	Strong	Composing		
Averaging mode	Long term	Soguence		
Reconstruction	Magnitude	Sequence	O#	
Measurements	5	Introduction	Off	
Pause after meas. 1	0.0 s	Dimension	3D Contrin	
Pause after meas. 2	0.0 s	Reordering	Centric	
Pause after meas. 3	0.0 s	Contrasts	2	
Pause after meas. 3	0.0 s 0.0 s	Bandwidth	1148 Hz/Px	
	Off	Echo spacing	1 ms	
Multiple series	Oli	Turbo factor	5	
Resolution		EPI factor	32	
Base resolution	128	RF pulse type	Normal	
Phase resolution	100 %	Gradient mode	Fast	
Slice resolution	100 %			
Slice partial Fourier	5/8	Phase skip	60	
Interpolation	Off	Ampl	100	
		BWDTH	200 3.1kHz	
	None	thickness	100	
PAT mode				
	O#	flip angle excit	90	
Prescan Normalize	Off	flip angle excit	90 ON	
	Off Off	phase encoding	ON	
Prescan Normalize				

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\\USER

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Feinberglab
       Tanja
              20171013
                      VASO_118_230V_tapping
                      BP_grase_clean_VASO_V07_func_10132017
                      BP_grase_clean_VASO_V08_func_10132017_1200
                      BP_grase_clean_VASO_V07_TI200_10132017
                      BP_grase_clean_VASO_V07_TI700_10132017
                      BP_grase_clean_VASO_V07_TI1000_10132017
                      BP_grase_clean_VASO_V07_TI1400_10132017
                      AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol
              20171023
                      BP_grase_clean_VASO_V07_TI200_10132017
                      BP_grase_clean_VASO_V07_TI500_10132017
                      BP_grase_clean_VASO_V07_TI700_10132017
                      BP_grase_clean_VASO_V07_TI1000_10132017
                      BP grase clean VASO V07 TI1200 10132017
                      BP_grase_clean_VASO_V07_TI1400_10132017
                      AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol
                      BP_grase_clean_VASO_V07_func_10132017
                      BP_grase_clean_VASO_V08_func_10132017_1200
              20171031
                      AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol
                      BP_grase_clean_VASO_V07_func_10132017
                      ep2d_fid_VASO
              20171103
                      AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol
                      BP_grase_clean_VASO_V07_func_1.2x1.2x1
                      ep2d_fid_VASO_1iso
                     ep2d_fid_VASO-1.2x1.2x1
                     BP_grase_clean_VASO_V07_func_0.8iso
              20171107_ismrm
                      AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol
                      BP_grase_clean_VASO_V07_func_0.8iso
                     ep2d_fid_VASO_1iso
              20171120 FOCI
                      AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol
                      BP_grase_clean_VASO_V07_func
                      BP_grase_clean_VASO_V08_func_TR4000
                      BP_grase_clean_VASO_V08_func_TR3000
                      BP_grase_clean_VASO_V07_func
                      ep2d_fid_VASO-1.2x1.2x1
                      --- 20171129 ---
                      BP_grase_clean_VASO_V08_func_TR3000
                      BP_grase_clean_VASO_V08_func_TI1200_TR3000
                      BP_grase_clean_VASO_V08_func_TI1000_TR3000
                      BP_grase_clean_VASO_V08_func_TI900_TR3000
                      BP_grase_clean_VASO_V08_func_TI700_TR3000
                      --- 20171205 ---
                      BP_grase_clean_VASO_V08_func_SNRboost
                      AV_ep2d_bold_sd1ipat2mb2_1mm_tSNR_shimWholeVol
                      ---- 20171214 ----
                      localizer_200V
                     b1map_230V
                      AV ep2d bold sd1ipat2mb2 1mm tSNR shimWholeVol
                      BP_grase_clean_VASO_V07_TI1450
                      BP_grase_clean_VASO_V07_TI1250
                      BP_grase_clean_VASO_V07_TI1050
                      BP_grase_clean_VASO_V07_TI850
                      BP_grase_clean_VASO_V07_SNRboost
              20171204 fociTest
                     grase_VASO_V08_TI37_PS30_TR10000
```

##