\\USER\Feinberglab\Joseph\20170629\AV\_ep2d\_bold\_sd1ipat2mb1\_pt35mm\_8ch\_hemloc TA: 6:23 PAT: 2 Voxel size: 0.3×0.3×0.7 mm Rel. SNR: 1.00 USER: AV\_ep2d\_bold\_sd\_20140727

Properties		Special sat.	None
Prio Recon	Off	Table position	Н
Before measurement	Oli	Table position	0 mm
After measurement		Inline Composing	Off
Load to viewer	On	Inline Composing	Oli
Inline movie	Off	System	
Auto store images	On	B1	On
	Off	B2	On
Load to stamp segments	Off	B3	On
Load images to graphic	Oli	B4	On
segments	0"	B5	On
Auto open inline display	Off	B6	On
Start measurement without	On	B7	On
further preparation	0"	B8	On
Wait for user to start	Off		
Start measurements	single	Positioning mode	FIX
Routine		MSMA	S - C - T
Slice group 1		—— Sagittal	R >> L
Slices	20	Coronal	A >> P
Dist. factor	0 %	Transversal	F >> H
Position	R0.7 P81.0 F14.2	Coil Combine Mode	Sum of Squares
Orientation	Coronal	AutoAlign	
Phase enc. dir.	F >> H	Auto Coil Select	Default
Rotation	90.00 deg	Chim mada	Standard
Phase oversampling	90.00 deg 0 %	Shim mode	Standard
FoV read	89 mm	Adjust with body coil	Off
	75.0 %	Confirm freq. adjustment	Off
FoV phase Slice thickness		Assume Silicone	Off
	0.70 mm	! Ref. amplitude 1H	125.000 V
TR	6000 ms	Adjustment Tolerance	Auto
TE	34.0 ms	Adjust volume	
Multi-band accel. factor	1	Position	R0.7 P81.0 F14.2
Filter	None	Orientation	Coronal
Coil elements	B1-8	Rotation	90.00 deg
Contrast		R >> L	89 mm
MTC	Off	——   F >> H	67 mm
Magn. preparation	None	A >> P	14 mm
Flip angle	90 deg	Physio	
Fat suppr.	Fat sat.	1st Signal/Mode	None
			140110
Averaging mode	Long term	BOLD	
Reconstruction	Magnitude	GLM Statistics	Off
Measurements	60	Dynamic t-maps	Off
Delay in TR	0 ms	Starting ignore meas	0
Multiple series	Off	Ignore after transition	0
Resolution		Model transition states	On
Base resolution	256	Temp. highpass filter	On
Phase resolution	100 %	Threshold	4.00
Phase resolution  Phase partial Fourier	5/8	Paradigm size	20
Interpolation	Off	Meas[1]	Baseline
Interpolation	OII	Meas[2]	Baseline
PAT mode	GRAPPA	Meas[3]	Baseline
Accel. factor PE	2	Meas[4]	Baseline
Ref. lines PE	42	Meas[5]	Baseline
Reference scan mode	GRE	Meas[6]	Baseline
D: 4 4: 0		···· Meas[7]	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[13]	Active
Series	Interleaved	Meas[14]	Active
Selles	interieaveu	···· Meas[16]	Active
į		[ Wicasi Is]	7101140

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

Sequence	
Introduction	Off
Bandwidth	574 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	1.91 ms
SIR accel. factor	1
EPI factor	192
Gradient mode	Normal
RF spoiling	Off
Excite pulse duration	4160 us
Slice multiplier	2
Fake MB factor for SB	_ 1
No. of interleaved TEs	0
RF pulse shape	1
EPI noise scans	0
EPI full reference scan	0
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
FFT scale factor	0.05
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

\\USER\Feinberglab\Joseph\20170629\fl2d10\_retro\_6slice\_36s\_FC\_FA8\_pulse

TA: 10:16	PAT: 2 Voxel size: 0.3×0.3×	×1.0 mm Rel. SNR: 1.00	SIEMENS: CV
Dranartia		Unfiltered images	Off
Properties	0"	<ul><li>Distortion Corr.</li></ul>	On
Prio Recon	Off	Mode	2D
Before measurement		Unfiltered images	Off
After measurement	0	Prescan Normalize	Off
Load to viewer	On	Normalize	Off
Inline movie	On	B1 filter	Off
Auto store images	On	Raw filter	Off
Load to stamp segments	On On	Elliptical filter	Off
Load images to graphic	Oli	POCS	Off
segments Auto open inline display	On	Geometry	
Start measurement without	On	Multi-slice mode	Sequential
further preparation	Oli	Series	Interleaved
Wait for user to start	Off		·····
Start measurements	single	Special sat.	None
	Sirigio		
Routine		Table position	Н
Slice group 1		Table position	0 mm
Slices	6	Inline Composing	Off
Dist. factor	100 %	System	
Position	R0.7 P81.0 F14.2	B1	On
Orientation	Coronal	B2	On
Phase enc. dir.	F >> H	B3	On
Rotation	90.00 deg	B4	On
Auto	On	B5	On
Phase oversampling	0 %	B6	On
FoV read	89 mm	B7	On
FoV phase	75.0 %	B8	On
Slice thickness	1.0 mm		
TR TE	1901.93 ms	Positioning mode	FIX
	16.00 ms	MSMA	S - C - T
Averages	1	Sagittal	R >> L
Concatenations Filter	6 Distortion Corr (2D) Image	Coronal	A >> P
Filler	Distortion Corr.(2D), Image	Transversal	F >> H
Coil elements	Filter B1-8	Save uncombined	Off
Con elements	D1-0	Coil Combine Mode	Adaptive Combine
Contrast		AutoAlign	
TD	0 ms	Auto Coil Select	Off
Magn. preparation	None	Shim mode	Standard
Flip angle	8 deg	Adjust with body coil	Off
Fat suppr.	None	Confirm freq. adjustment	Off
Restore magn.	Off	Assume Silicone	Off
Averaging mode	Short term	! Ref. amplitude 1H	125.000 V
Reconstruction	Magnitude	Adjustment Tolerance	Auto
Measurements	1	Adjust volume	
Multiple series	Each slice	! Position	R0.7 P81.0 F14.2
1		! Orientation	Coronal
Resolution	0.50	_ ! Rotation	90.00 deg
Base resolution	256	! R >> L	89 mm
Phase resolution	100 %	! F >> H	67 mm
Phase partial Fourier	6/8	! A >> P	15 mm
Trajectory	Cartesian	Physio	
View sharing	Off	1st Signal/Mode	Pulse/Trigger
Interpolation	Off	Average cycle	No Signal ms
PAT mode	GRAPPA	Captured cycle	-not set-
Accel. factor PE	2	Acquisition window	36000 ms
Ref. lines PE	44	Trigger pulse	1
Reference scan mode	Integrated	Trigger delay	0 ms
Imaga Filter	On	Segments	89
Image Filter	_	Phases	18
! Intensity Edge Enhancement	Medium 1		
Smoothing	3	Tagging	None Off
I Smoothing	<b>U</b>	Dark blood	OII

Cine	On
Dummy heartbeats	1
Inline ventricular function	Off
Resp. control	Off
Inline	
Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Sequence	
Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Allowed
Bandwidth	199 Hz/Px
Flow comp.	Yes
Optimization	Min. TR
Allowed delay	0 s
Echo spacing	21.4 ms
Sequence type	Gre
Define	Segments
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
n ip angle mode	Outstain

On

On

RF spoiling

Phase Enc. Rewinder

\\USER\Feinberglab\Joseph\20170629\fl3d\_retro\_pt35mm\_FC\_ipat3

		0.3×0.7 mm Rel. SNR: 1.00	SIEMENS: CV
		Distortion Corr.	Off
Properties		Prescan Normalize	Off
Prio Recon	Off	Normalize	Off
Before measurement		B1 filter	Off
After measurement	0	Raw filter	Off
Load to viewer	On	Elliptical filter	Off
Inline movie	On	POCS	Off
Auto store images	On	0	
Load to stamp segments	On	Geometry	
Load images to graphic	On	Multi-slice mode	Sequential
segments		Series	Interleaved
Auto open inline display	On	Special sat.	None
Start measurement without	On		
further preparation	0"	Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	Inline Composing	Off
Routine		1	Oli
Slab group 1		System	
Slabs	1	T1	On
Dist. factor	20 %	M2	On
Position	L0.8 P42.3 F11.8	B4	On
Orientation	Coronal	M3	On
Phase enc. dir.	F >> H	V32	Off
Rotation	90.00 deg	Desitioning and	FIV
Auto	On	Positioning mode	FIX
Phase oversampling	0 %	MSMA	S-C-T
		Sagittal	R >> L
Slice oversampling	0.0 %	Coronal	A >> P
Slices per slab	16	Transversal	F >> H
FoV read	89 mm	Save uncombined	Off
FoV phase	100.0 %	Coil Combine Mode	Adaptive Combine
Slice thickness	0.70 mm	AutoAlign	
TR	2170.86 ms	Auto Coil Select	Off
TE	16.00 ms	Shim mode	Standard
Averages	1		
Concatenations	1	Adjust with body coil	Off
Filter	None	Confirm freq. adjustment	Off
Coil elements	B4;M2,3;T1	Assume Silicone	Off
Contrast		! Ref. amplitude 1H	130.000 V
Magn. preparation	None	Adjustment Tolerance	Auto
Flip angle	8 deg	Adjust volume	100000000000
Fat suppr.	None	! Position	L0.8 P42.3 F11.8
Restore magn.	Off	! Orientation	Coronal
		! Rotation	0.00 deg
Averaging mode	Short term	!F>> H	89 mm
Reconstruction	Magnitude	! R >> L	89 mm
Measurements	1	! A >> P	12 mm
Multiple series	Off	Physio	
Resolution		1st Signal/Mode	Pulse/Trigger
	256	Average cycle	No Signal ms
Base resolution		Captured cycle	-not set-
Phase resolution	100 %	Acquisition window	36000 ms
Slice resolution	100 %	Trigger pulse	1
Phase partial Fourier	6/8	Trigger belay	0 ms
Slice partial Fourier	6/8	Segments	97
Trajectory	Cartesian	Phases	16
View sharing	Off		
Interpolation	Off	Tagging	None
PAT mode	GRAPPA	Dark blood	Off
Accel. factor PE	3	Cine	On
Ref. lines PE	24	Dummy heartbeats	1
Accel. factor 3D	2 <del>4</del> 1	Inline ventricular function	Off
Reference scan mode	Integrated		
	·····	Resp. control	Off
Image Filter	Off	Inline	

Off
Off
On

#### Sequence

5	equence	
	Introduction	Off
	Dimension	3D
	Elliptical scanning	Off
	Reordering	Linear
	Asymmetric echo	Off
	Bandwidth	149 Hz/Px
	Flow comp.	Yes
	Optimization	Min. TR
	Allowed delay	0 s
	Echo spacing	22.4 ms
	Sequence type	Gre
	Define	Segments
	RF pulse type	Normal
	Gradient mode	Normal*
	Excitation	Slab-sel.
	Flip angle mode	Constant
	RF spoiling	On
	Phase Enc. Rewinder	On

\\USER\Feinberglab\Joseph\20170629\fl3d\_retro\_pt35mm\_FC

Rel. SNR: 1.00

SIEMENS: CV

Voxel size: 0.3×0.3×0.7 mm

TA: 14:27

PAT: 2

		Image Filter	On
Properties		Image Filter Intensity	Medium
Prio Recon	Off	Edge Enhancement	1
Before measurement		Smoothing	3
After measurement	_	Unfiltered images	Off
Load to viewer	On	Distortion Corr.	On
Inline movie	On	Mode	2D
Auto store images	On	Unfiltered images	Off
Load to stamp segments	On	Prescan Normalize	Off
Load images to graphic	On	Normalize	Off
segments	0	B1 filter	Off
Auto open inline display	On	Raw filter	Off
Start measurement without	On	Elliptical filter	Off
further preparation Wait for user to start	Off	POCS	Off
Start measurements	single	Geometry	
ı	Sirigie	Multi-slice mode	Sequential
Routine		- Series	Interleaved
Slab group 1			
Slabs	1	Special sat.	None
Dist. factor	20 %		
Position	L0.8 P42.3 F11.8	Table position	Н
Orientation	Coronal	Table position	0 mm
Phase enc. dir.	R >> L	Inline Composing	Off
Rotation	0.00 deg	System	
Auto	On	T1	On
Phase oversampling	0 %	M2	On
Slice oversampling	0.0 %	B4	On
Slices per slab	16	M3	On
FoV read	89 mm 100.0 %	V32	Off
FoV phase Slice thickness	0.70 mm		
TR	2166.98 ms	Positioning mode	FIX
TE	16.00 ms	MSMA	S - C - T
Averages	10.00 ms	Sagittal	R >> L
Concatenations	1	Coronal	A >> P
Filter	Distortion Corr.(2D), Image	Transversal	F >> H
i iitei	Filter	Save uncombined	Off
Coil elements	B4;M2,3;T1	Coil Combine Mode	Adaptive Combine
I and the second	21,1112,0,11	AutoAlign Auto Coil Select	 Off
Contrast			OII
Magn. preparation	None	Shim mode	Standard
Flip angle	8 deg	Adjust with body coil	Off
Fat suppr.	None	Confirm freq. adjustment	Off
Restore magn.	Off	Assume Silicone	Off
Averaging mode	Short term	! Ref. amplitude 1H	130.000 V
Reconstruction	Magnitude	Adjustment Tolerance	Auto
Measurements	1	Adjust volume	L 0 0 D 40 0 E 4 4 0
Multiple series	Off	! Position	L0.8 P42.3 F11.8
Resolution		! Orientation	Coronal
Base resolution	256	_ ! Rotation	0.00 deg
Phase resolution	256 100 %	!F>>H	89 mm
Slice resolution	100 %	! R >> L ! A >> P	89 mm
Phase partial Fourier	6/8	! A >> P	12 mm
Slice partial Fourier	6/8	Physio	
Trajectory	Cartesian	1st Signal/Mode	Pulse/Trigger
View sharing	Off	Average cycle	No Signal ms
Interpolation	Off	Captured cycle	-not set-
		Acquisition window	36000 ms
PAT mode	GRAPPA	Trigger pulse	1
Accel. factor PE	2	Trigger delay	0 ms
Ref. lines PE	24	Segments	97
Accel. factor 3D	1	Phases	16
Reference scan mode	Integrated	Tagging	None
1		Tagging	HUITE

Dark blood	Off
Cine	On
Dummy heartbeats	1
Inline ventricular function	Off
Resp. control	Off
Inline	
Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Sequence	
Introduction	Off
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Allowed
Bandwidth	149 Hz/Px Yes
Flow comp. Optimization	Min. TR
Allowed delay	0 s
Echo spacing	22.3 ms
Sequence type	Gre
Define	Segments
RF pulse type	Normal
1	
Gradient mode	Normal*
Excitation	Normal* Slab-sel.
Excitation Flip angle mode	Normal* Slab-sel. Constant
Excitation	Normal* Slab-sel.

\\USER\Feinberglab\Joseph\20170629\AV\_ep2d\_bold\_sd2ipat2mb2\_pt35mm\_8ch\_hemloc TA: 6:56 PAT: 2 Voxel size: 0.3×0.3×0.7 mm Rel. SNR: 1.00 USER: AV\_ep2d\_bold\_sd\_20140727

Drapartica		Special sat.	None
Properties  Prio Popon	Off		 П
Prio Recon	Off	Table position	H 0 mm
Before measurement		Table position	0 mm
After measurement	0	Inline Composing	Off
Load to viewer	On Off	System	
Inline movie	Off	B1	On
Auto store images	On	B2	On
Load to stamp segments	Off	B3	On
Load images to graphic	Off	B4	On
segments		B5	On
Auto open inline display	Off	B6	On
Start measurement without	On	B7	On
further preparation		B8	On
Wait for user to start	Off		
Start measurements	single	Positioning mode	FIX
Routine		MSMA	S - C - T
Slice group 1		— Sagittal	R >> L
Slices	36	Coronal	A >> P
Dist. factor	0 %	Transversal	F >> H
Position	0 % R0.7 P76.6 F8.8	Coil Combine Mode	Sum of Squares
Orientation	Coronal	AutoAlign	
		Auto Coil Select	Default
Phase enc. dir.	F >> H	Ohios as a d	04
Rotation	90.00 deg 0 %	Shim mode	Standard
Phase oversampling		Adjust with body coil	Off
FoV read	89 mm	Confirm freq. adjustment	Off
FoV phase	87.5 %	Assume Silicone	Off
Slice thickness	0.70 mm	! Ref. amplitude 1H	125.000 V
TR	6000 ms	Adjustment Tolerance	Auto
TE	38.0 ms	Adjust volume	
Multi-band accel. factor	2	Position	R0.7 P76.6 F8.8
Filter	None	Orientation	Coronal
Coil elements	B1-8	Rotation	90.00 deg
Contrast		R >> L	89 mm
MTC	Off	— F >> H	78 mm
Magn. preparation	None	A >> P	26 mm
Flip angle	90 deg	Physio	
Fat suppr.	Fat sat.	1st Signal/Mode	None
		13t Signal/Mode	None
Averaging mode	Long term	BOLD	
Reconstruction	Magnitude	GLM Statistics	Off
Measurements	60	Dynamic t-maps	Off
Delay in TR	0 ms	Starting ignore meas	0
Multiple series	Off	Ignore after transition	0
Resolution		Model transition states	On
Base resolution	256	<ul> <li>Temp. highpass filter</li> </ul>	On
Phase resolution	100 %	Threshold	4.00
		Paradigm size	20
Phase partial Fourier	5/8 Off	Meas[1]	Baseline
Interpolation	Off	Meas[2]	Baseline
PAT mode	GRAPPA	Meas[3]	Baseline
Accel. factor PE	2	Meas[4]	Baseline
Ref. lines PE	52	Meas[5]	Baseline
Reference scan mode	GRE	Meas[6]	Baseline
		Meas[7]	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
Geometry	Interlogued	_   Meas[13] -   Meas[14]	Active
Multi-slice mode	Interleaved	Meas[15]	Active
Series	Interleaved		
1		Meas[16]	Active

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

Sequence		
Introduction Bandwidth Flow comp. Free echo spacing Echo spacing	No	Hz/Px ms
SIR accel. factor EPI factor Gradient mode RF spoiling	1 224 Norn Off	nal
Excite pulse durat Slice multiplier Multi-band PE shit zBlip scheme MB kernel size MB knockout band No. of interleaved RF pulse shape EPI noise scans EPI full reference Single-band image MB RF phase scra SENSE1 coil com Log physiology to Invert RO/PE pola Save reduced raw Readout slice trace Disable ramp sam PF omits higher k-Online multi-band FFT scale factor GRE iPAT ref. FA Send B1 shim trig Triggering scheme Starting ignore me Paradigm size Multiplier Step [1] Step [2]	2 ft 0 1/F 0 0 0 0 d 0 TES 0 scan 0 es On amble Off bine Off file Off arity Off or data Off recon. Onlirespace Off recon. Onlirespace Off 12.0 ger Neve Stan	ne deg er

\\USER\Feinberglab\Joseph\20170629\AV\_ep2d\_bold\_sd2ipat2mb1\_pt35mm\_8ch\_hemloc TA: 6:25 PAT: 2 Voxel size: 0.3×0.3×0.7 mm Rel. SNR: 1.00 USER: AV\_ep2d\_bold\_sd\_20140727

Drapartica		Special sat.	None
Properties Properties	Off		 П
Prio Recon	Off	Table position	H 0 mm
Before measurement		Table position	0 mm
After measurement	0	Inline Composing	Off
Load to viewer	On Off	System	
Inline movie	Off	T1	On
Auto store images	On	M2	On
Load to stamp segments	Off	B4	On
Load images to graphic	Off	M3	On
segments	2"	V32	Off
Auto open inline display	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
Routine		Transversal	F >> H
Slice group 1		— Coil Combine Mode	Sum of Squares
Slices	18	AutoAlign	
Dist. factor	0 %	Auto Coil Select	Default
Position	L0.8 P42.3 F11.8	Chim made	Ctandard
Orientation	Coronal	Shim mode	Standard
Phase enc. dir.	Coronal F >> H	Adjust with body coil	Off
		Confirm freq. adjustment	Off
Rotation	90.00 deg	Assume Silicone	Off
Phase oversampling	0 %	! Ref. amplitude 1H	125.000 V
FoV read	89 mm	Adjustment Tolerance	Auto
FoV phase	87.5 %	Adjust volume	
Slice thickness	0.70 mm	! Position	L0.8 P42.3 F11.8
TR	6000 ms	! Orientation	Coronal
TE	38.0 ms	! Rotation	0.00 deg
Multi-band accel. factor	1	! F >> H	89 mm
Filter	None	! R >> L	89 mm
Coil elements	B4;M2,3;T1	! A >> P	12 mm
Contrast		Physio	
MTC	Off	1st Signal/Mode	None
Magn. preparation	None	1	
Flip angle	90 deg	BOLD	
Fat suppr.	Fat sat.	GLM Statistics	Off
		Dynamic t-maps	Off
Averaging mode	Long term	Starting ignore meas	0
Reconstruction	Magnitude	Ignore after transition	0
Measurements	60	Model transition states	On
Delay in TR	0 ms	Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
Resolution		Paradigm size	20
Base resolution	256	— Meas[1]	Baseline
Phase resolution	100 %	Meas[2]	Baseline
Phase partial Fourier	5/8	Meas[3]	Baseline
·	Off	Meas[4]	Baseline
Interpolation	OII	Meas[5]	Baseline
PAT mode	GRAPPA	Meas[6]	Baseline
Accel. factor PE	2	Meas[7]	Baseline
Ref. lines PE	- 52	Meas[8]	Baseline
Reference scan mode	GRE	Meas[9]	Baseline
	-	Meas[10]	Baseline
Distortion Corr.	Off	Meas[11]	Active
Prescan Normalize	Off	Meas[11]	Active
Raw filter	On	Meas[12]	Active
Elliptical filter	Off	Meas[14]	Active
Hamming	Off	Meas[14]	Active
Geometry		Meas[16]	Active
Geometry	lista da accad		Active
Multi-slice mode	Interleaved	Meas[17] Meas[18]	Active
Series	Interleaved		
		Meas[19]	Active

Meas[20] Motion correction Spatial filter	Active Off Off
Sequence	
Introduction Bandwidth Flow comp. Free echo spacing Echo spacing	Off 574 Hz/Px No Off 1.91 ms
SIR accel. factor EPI factor Gradient mode RF spoiling	1 224 Normal Off
Excite pulse duration Slice multiplier Fake MB factor for No. of interleaved Tare pulse shape EPI noise scans EPI full reference satisfied scans EPI fooling scans EPI scale factor GRE iPAT ref. FA Send B1 shim trigg Triggering scheme Starting ignore mean Paradigm size Multiplier Step [1] Step [2]	2 SB 1 Es 0 1 0 can 0 ne Off e Off y Off cata Off off ing Off 0.05 12.0 deg er Never Standard

	\\USER\Feinbergl	lab\Joseph\20170629\ep2d_bold	
TA: 3:22 PAT	: 2 Voxel size: 0.7×0	0.7×5.0 mm Rel. SNR: 1.00 SIEI	MENS: ep2d_bold
Properties		Special sat.	None
Prio Recon	Off	Table position	Н
Before measurement	Oll	Table position	0 mm
After measurement		Inline Composing	Off
Load to viewer	On		<b>3</b>
Inline movie	Off	System	
Auto store images	On	T1	On
Load to stamp segments	Off	M2	Off
Load images to graphic	Off	B4	Off
segments	<b>.</b>	M3	Off
Auto open inline display	Off	V32	Off
Start measurement without	On	Positioning mode	REF
further preparation		MSMA	S - C - T
Wait for user to start	Off	Sagittal	R >> L
Start measurements	single	Coronal	A >> P
I .	9	Transversal	F >> H
Routine		Coil Combine Mode	Sum of Squares
Slice group 1		AutoAlign	
Slices	60	Auto Coil Select	Default
Dist. factor	50 %		
Position	Isocenter	Shim mode	Standard
Orientation	Transversal	Adjust with body coil	Off
Phase enc. dir.	A >> P	Confirm freq. adjustment	Off
Rotation	0.00 deg	Assume Silicone	Off
Phase oversampling	0 %	? Ref. amplitude 1H	0.000 V
FoV read	140 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	
Slice thickness	5.0 mm	Position	Isocenter
TR	8780 ms	Orientation	Transversal
TE	50 ms	Rotation	0.00 deg
Averages	1	R >> L	140 mm
Concatenations	1	A >> P	140 mm
Filter	None	F >> H	448 mm
Coil elements	T1	Physio	
Contrast		1st Signal/Mode	None
MTC	Off		None
Flip angle	90 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	20	Model transition states	On
Delay in TR	0 ms	Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
Resolution		Paradigm size	20
Base resolution	208	Meas[1]	Baseline
Phase resolution	100 %	Meas[2]	Baseline
Phase partial Fourier	6/8	Meas[3]	Baseline
Interpolation	Off	Meas[4]	Baseline
			Baseline
PAT mode	GRAPPA	Meas[6]	Baseline
Accel. factor PE	2	Meas[7]	Baseline
Ref. lines PE	24	Meas[8]	Baseline
Reference scan mode	Separate	Meas[9]	Baseline
Distortion Corr.	Off	Meas[10]	Baseline
Prescan Normalize	Off	Meas[11]	Active
Raw filter	On	Meas[12]	Active
Elliptical filter	Off	Meas[13]	Active
Hamming	Off	Meas[14]	Active
1	<del>-</del>	Meas[15]	Active
Geometry		Meas[16]	Active
Multi clico modo	Intorlogued	Meas[17]	Δctive

Meas[17]

Meas[18]

Meas[19]

Active

Active

Active

Interleaved

Interleaved

Multi-slice mode

Meas[20]	Active
Motion correction	On
Interpolation	3D-K-space
Snatial filter	Off

### Sequence

Introduction	Off
Bandwidth	752 Hz/Px
Free echo spacing	Off
Echo spacing	1.44 ms
EPI factor	208
RF pulse type	Normal
Gradient mode	Normal

\\USER\Feinberglab\Joseph\20170629\fl3d\_retro\_pt35mm\_FC\_ipat3\_24s

Proportion		Distortion Corr.	Off
Properties		Prescan Normalize	Off
Prio Recon	Off	Normalize	Off
Before measurement		B1 filter	Off
After measurement	_	Raw filter	Off
Load to viewer	On	Elliptical filter	Off
Inline movie	On	POCS	Off
Auto store images	On	I	<b>.</b>
Load to stamp segments	On	Geometry	
Load images to graphic	On	Multi-slice mode	Sequential
segments		Series	Interleaved
Auto open inline display	On	Special sat.	None
Start measurement without	On	Special Sat.	
further preparation			
Wait for user to start	Off	Table position	Н
Start measurements	single	Table position	0 mm
4	· ·	Inline Composing	Off
outine Slab group 1		—— System	
Slabs	1	T1	On
Dist. factor	20 %	M2	On
Position	L0.8 P42.3 F11.8	B4	On
Orientation		M3	On
	Coronal	V32	Off
Phase enc. dir.	F >> H		
Rotation	90.00 deg	Positioning mode	FIX
Auto	On	MSMA	S - C - T
Phase oversampling	0 %	Sagittal	R >> L
Slice oversampling	0.0 %	Coronal	A >> P
Slices per slab	16	Transversal	F >> H
FoV read	89 mm	Save uncombined	Off
FoV phase	100.0 %	Coil Combine Mode	Adaptive Combine
Slice thickness	0.70 mm	AutoAlign	
TR	1969.44 ms	Auto Coil Select	Off
TE	16.00 ms		
Averages	1	Shim mode	Standard
Concatenations	1	Adjust with body coil	Off
Filter	None	Confirm freq. adjustment	Off
Coil elements	B4;M2,3;T1	Assume Silicone	Off
Con elements	D4,1V12,3,11	! Ref. amplitude 1H	130.000 V
ontrast		Adjustment Tolerance	Auto
Magn. preparation	None	Adjust volume	7 10.10
Flip angle	8 deg	! Position	L0.8 P42.3 F11.8
Fat suppr.	None	! Orientation	Coronal
Restore magn.	Off	! Rotation	0.00 deg
		! F >> H	0.00 deg 89 mm
Averaging mode	Short term		89 mm
Reconstruction	Magnitude	! R >> L	
Measurements	1	! A >> P	12 mm
Multiple series	Off	Physio	
esolution		1st Signal/Mode	Pulse/Trigger
	256	Average cycle	No Signal ms
Base resolution	256	Captured cycle	-not set-
Phase resolution	100 %	Acquisition window	24000 ms
Slice resolution	100 %	Trigger pulse	1
Phase partial Fourier	6/8	Trigger bulse  Trigger delay	0 ms
Slice partial Fourier	6/8		88
Trajectory	Cartesian	Segments	
View sharing	Off	Phases	12
Interpolation	Off	Tagging	None
		Dark blood	Off
PAT mode	GRAPPA	Cine	On
Accel. factor PE	3		1
Ref. lines PE	24	Dummy heartbeats	
Accel. factor 3D	1	Inline ventricular function	Off
D (	Intograted		0"
Reference scan mode	Integrated	Resp. control	Off

Inline

Image Filter

Off

Subtract Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra	Off Off Off
Std-Dev-Time MIP-Sag MIP-Cor	Off Off Off
MIP-Cor MIP-Tra MIP-Time	Off Off Off
 Save original images	On

#### Sequence

S	Sequence		
	Introduction	Off	
	Dimension	3D	
	Elliptical scanning	Off	
	Reordering	Linear	
	Asymmetric echo	Off	
	Bandwidth	149 Hz/Px	
	Flow comp.	Yes	
	Optimization	Min. TR	
	Allowed delay	0 s	
	Echo spacing	22.4 ms	
	Sequence type	Gre	
	Define	Segments	
	RF pulse type	Normal	
	Gradient mode	Normal*	
	Excitation	Slab-sel.	
	Flip angle mode	Constant	
	RF spoiling	On	
	Phase Enc. Rewinder	On	

\\USER\Feinberglab\Joseph\20170629\AV\_ep2d\_bold\_sd1ipat2mb1\_pt35mm\_8ch\_hemloc TA: 7:05 PAT: 2 Voxel size: 0.3×0.3×0.3 mm Rel. SNR: 1.00 USER: AV\_ep2d\_bold\_sd\_20140727

Drapartica		Special sat.	None
Properties Properties	Off		 ⊔
Prio Recon	Off	Table position	H 0 mm
Before measurement		Table position	0 mm
After measurement	0	Inline Composing	Off
Load to viewer	On O"	System	
Inline movie	Off	T1	On
Auto store images	On O"	M2	On
Load to stamp segments	Off	B4	On
Load images to graphic	Off	M3	On
segments	0"	V32	Off
Auto open inline display	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
Routine		Transversal	F >> H
Slice group 1		<ul> <li>Coil Combine Mode</li> </ul>	Sum of Squares
Slices	40	AutoAlign	
Dist. factor	0 %	Auto Coil Select	Default
Position	L0.8 P42.3 F11.8	Chim made	Standard
Orientation	Coronal	Shim mode	Standard
Phase enc. dir.	Coronal F >> H	Adjust with body coil	Off
		Confirm freq. adjustment	Off
Rotation	90.00 deg	Assume Silicone	Off
Phase oversampling	0 %	! Ref. amplitude 1H	125.000 V
FoV read	89 mm	Adjustment Tolerance	Auto
FoV phase	75.0 %	Adjust volume	
Slice thickness	0.35 mm	! Position	L0.8 P42.3 F11.8
TR	6000 ms	! Orientation	Coronal
TE	38.0 ms	! Rotation	0.00 deg
Multi-band accel. factor	1	! F >> H	89 mm
Filter	None	! R >> L	89 mm
Coil elements	B4;M2,3;T1	! A >> P	12 mm
Contrast		Physio	
MTC	Off	1st Signal/Mode	None
Magn. preparation	None	•	
Flip angle	90 deg	BOLD	
Fat suppr.	Fat sat.	GLM Statistics	Off
		Dynamic t-maps	Off
Averaging mode	Long term	Starting ignore meas	0
Reconstruction	Magnitude	Ignore after transition	0
Measurements	65	Model transition states	On
Delay in TR	0 ms	Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
Resolution		Paradigm size	20
Base resolution	256	— Meas[1]	Baseline
Phase resolution	100 %	Meas[2]	Baseline
Phase partial Fourier	5/8	Meas[3]	Baseline
•	Off	Meas[4]	Baseline
Interpolation	OII	Meas[5]	Baseline
PAT mode	GRAPPA	Meas[6]	Baseline
Accel. factor PE	2	Meas[7]	Baseline
Ref. lines PE	44	Meas[8]	Baseline
Reference scan mode	GRE	Meas[9]	Baseline
	-	Meas[10]	Baseline
Distortion Corr.	Off	Meas[11]	Active
Prescan Normalize	Off	Meas[12]	Active
Raw filter	On	Meas[13]	Active
Elliptical filter	Off	Meas[14]	Active
Hamming	Off	Meas[14] Meas[15]	Active
Geometry		Meas[15] Meas[16]	Active
Geometry	Interlogued	Meas[16] Meas[17]	Active
Multi-slice mode	Interleaved	Meas[17] Meas[18]	Active
Series	Interleaved		
		Meas[19]	Active

Meas[20] Motion correction Spatial filter	Active Off Off
Sequence	
Introduction Bandwidth Flow comp. Free echo spacing Echo spacing	Off 574 Hz/Px No Off 1.91 ms
SIR accel. factor EPI factor Gradient mode RF spoiling	1 192 Normal Off
Excite pulse duration Slice multiplier Fake MB factor for SB No. of interleaved TEs RF pulse shape EPI noise scans EPI full reference scan 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-spac FFT scale factor GRE iPAT ref. FA	Off Off
Send B1 shim trigger	Never

Standard

0

2 1 1

0

Triggering scheme

Paradigm size Multiplier Step [1]

Step [2]

Starting ignore meas

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TA: 7:36 PAT: 3 Voxel size: 0.3×0.3×0.4 mm Rel. SNR: 1.00 SIEMENS: CV			
Droportion		Distortion Corr.	Off
Properties Properties	0"	Prescan Normalize	Off
Prio Recon	Off	Normalize	Off
Before measurement After measurement		B1 filter	Off
	On	Raw filter	Off
Load to viewer	On	Elliptical filter	Off
Inline movie	On	POCS	Off
Auto store images	On On	Coometry	
Load to stamp segments	On	Geometry	Cognostial
Load images to graphic	On	Multi-slice mode	Sequential
segments		Series	Interleaved
Auto open inline display	On	Special sat.	None
Start measurement without	On		
further preparation	a.,	Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	Inline Composing	Off
Routine		Illine Composing	Oli
Slab group 1		—— System	
Slabs	1	B1	On
Dist. factor	20 %	B2	On
Position	R0.6 P85.5 F12.5	B3	On
Orientation	Coronal	B4	On
Phase enc. dir.	F >> H	B5	On
Rotation	90.00 deg	B6	On
Auto	On	B7	On
	0 %	B8	On
Phase oversampling			
Slice oversampling	0.0 %	Positioning mode	FIX
Slices per slab	24	MSMA	S - C - T
FoV read	89 mm	Sagittal	R >> L
FoV phase	100.0 %	Coronal	A >> P
Slice thickness	0.35 mm	Transversal	F >> H
TR	2619.56 ms	Save uncombined	Off
TE	24.00 ms	Coil Combine Mode	Adaptive Combine
Averages	1	AutoAlign	
Concatenations	1	Auto Coil Select	Off
Filter	None	Chim made	Ctandard
Coil elements	B1-8	Shim mode	Standard
Contrast		Adjust with body coil	Off Off
Magn. preparation	None	Confirm freq. adjustment	
Flip angle	8 deg	Assume Silicone	Off
Fat suppr.	None	! Ref. amplitude 1H	130.000 V
Restore magn.	Off	Adjustment Tolerance	Auto
		Adjust volume Position	D0 6 D05 5 T10 5
Averaging mode	Short term	Orientation	R0.6 P85.5 F12.5
Reconstruction	Magnitude		Coronal
Measurements	1	Rotation	90.00 deg
Multiple series	Each measurement	R >> L F >> H	89 mm
Resolution		Г >> П A >> P	89 mm 9 mm
Base resolution	256	A >> F	9 111111
Phase resolution	100 %	Physio	
Slice resolution	100 %	1st Signal/Mode	Pulse/Trigger
Phase partial Fourier	6/8	Average cycle	No Signal ms
Slice partial Fourier	6/8	Captured cycle	-not set-
Trajectory	Cartesian	Acquisition window	24000 ms
View sharing	Off	Trigger pulse	1
<u> </u>	-	Trigger delay	0 ms
Interpolation	Off	Segments	86
PAT mode	GRAPPA	Phases	9
Accel. factor PE	3		
Ref. lines PE	24	Tagging	None
Accel. factor 3D	 1	Dark blood	Off
Reference scan mode	Integrated	Cine	On
		Dummy heartbeats	1
Image Filter	Off	Inline ventricular function	Off

	Resp. control	Off
Ir	nline	
	Subtract	Off
	Std-Dev-Sag	Off
	Std-Dev-Cor	Off
	Std-Dev-Tra	Off
	Std-Dev-Time	Off
	MIP-Sag	Off
	MIP-Cor	Off
	MIP-Tra	Off
	MIP-Time	Off
	Save original images	On
S	equence	
	Introduction	Off
	Dimension	3D
	Elliptical scanning	Off
	Reordering	Linear
	Asymmetric echo	Off
	Bandwidth	149 Hz/Px
	Flow comp.	Slice/Read
	Optimization	Min. TR
	Allowed delay	0 s
	Echo spacing	30.5 ms
	Sequence type	Gre
	Define	Segments
	RF pulse type	Normal
	Gradient mode	Normal*
	Excitation	Slab-sel.
	Flip angle mode	Constant
	RF spoiling	On
	Phase Enc. Rewinder	On
1	acc Erioi i tominaci	<b>U</b>

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TA: 7:36 PAT: 3 Voxel size: 0.3×0.3×0.4 mm Rel. SNR: 1.00 SIEMENS: CV			
Donastis		Distortion Corr.	Off
Properties	0"	Prescan Normalize	Off
Prio Recon	Off	Normalize	Off
Before measurement		B1 filter	Off
After measurement	0.5	Raw filter	Off
Load to viewer	On	Elliptical filter	Off
Inline movie	On	POCS	Off
Auto store images	On	0	
Load to stamp segments	On	Geometry	
Load images to graphic	On	Multi-slice mode	Sequential
segments		Series	Interleaved
Auto open inline display	On	Special sat.	None
Start measurement without	On		
further preparation	a.,,	Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	Inline Composing	Off
Routine		Illillie Composing	Oli
Slab group 1		—— System	
Slabs	1	B1	On
Dist. factor	20 %	B2	On
Position	R0.6 P85.5 F12.5	B3	On
Orientation	Coronal	B4	On
Phase enc. dir.	F >> H	B5	On
Rotation	90.00 deg	B6	On
Auto	On	B7	On
	0 %	B8	On
Phase oversampling			
Slice oversampling	0.0 %	Positioning mode	FIX
Slices per slab	24	MSMA	S - C - T
FoV read	89 mm	Sagittal	R >> L
FoV phase	100.0 %	Coronal	A >> P
Slice thickness	0.35 mm	Transversal	F >> H
TR	2425.68 ms	Save uncombined	Off
TE	16.00 ms	Coil Combine Mode	Adaptive Combine
Averages	1	AutoAlign	
Concatenations	1	Auto Coil Select	Off
Filter	None	Shim mode	Standard
Coil elements	B1-8	Adjust with body coil	Off
Contrast		Confirm freq. adjustment	Off
Magn. preparation	None	Assume Silicone	Off
Flip angle	8 deg	! Ref. amplitude 1H	130.000 V
Fat suppr.	None	Adjustment Tolerance	Auto
Restore magn.	Off	Adjust volume	Auto
		Position	R0.6 P85.5 F12.5
Averaging mode	Short term	Orientation	Coronal
Reconstruction	Magnitude	Rotation	90.00 deg
Measurements	1	Rotation R >> L	89 mm
Multiple series	Each measurement	F >> L	89 mm
Resolution		A >> P	9 mm
Base resolution	256	I	3 111111
Phase resolution	100 %	Physio	
Slice resolution	100 %	1st Signal/Mode	Pulse/Trigger
Phase partial Fourier	6/8	Average cycle	No Signal ms
Slice partial Fourier	6/8	Captured cycle	-not set-
Trajectory	Cartesian	Acquisition window	24000 ms
View sharing	Off	Trigger pulse	1
<u> </u>		Trigger delay	0 ms
Interpolation	Off	Segments	108
PAT mode	GRAPPA	Phases	9
Accel. factor PE	3		
Ref. lines PE	24	Tagging	None
Accel. factor 3D	1	Dark blood	Off
Reference scan mode	Integrated	Cine	On
		Dummy heartbeats	1
Image Filter	Off	Inline ventricular function	Off

	Resp. control	Off
Ir	nline	
	Subtract	Off
	Std-Dev-Sag	Off
	Std-Dev-Cor	Off
	Std-Dev-Tra	Off
	Std-Dev-Time	Off
	MIP-Sag	Off
	MIP-Cor	Off
	MIP-Tra	Off
	MIP-Time	Off
	Save original images	On
S	equence	
	Introduction	Off
	Dimension	3D
	Elliptical scanning	Off
	Reordering	Linear
	Asymmetric echo	Off
	Bandwidth	149 Hz/Px
	Flow comp.	Slice/Read
	Optimization	Min. TR
	Allowed delay	0 s
	Echo spacing	22.5 ms
	Sequence type	Gre
	Define	Segments
	RF pulse type	Normal
	Gradient mode	Normal*
	Excitation	Slab-sel.
	Flip angle mode	Constant
	RF spoiling	On
	Phase Enc. Rewinder	On

\\USER\Feinberglab\Joseph\20170629\AV\_ep2d\_bold\_sd1ipat2mb1\_pt35mm\_8ch\_ret TA: 4:47 PAT: 2 Voxel size: 0.3×0.3×0.3 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	1	
Inline movie	Off	System	
Auto store images	On	B1	On
Load to stamp segments	Off	B2	On
Load images to graphic	Off	B3	On
segments	<b>.</b>	B4	On
Auto open inline display	Off	B5	On
Start measurement without	On	B6	On
further preparation	Oli	B7	On
Wait for user to start	Off	B8	On
Start measurements	single	Docitioning mode	FIX
Start measurements	Single	Positioning mode	
Routine		MSMA	S-C-T
Slice group 1		— Sagittal	R >> L
Slices	40	Coronal	A >> P
Dist. factor	0 %	Transversal	F >> H
Position	R9.3 P82.8 F8.5	Coil Combine Mode	Sum of Squares
Orientation	Coronal	AutoAlign	
Phase enc. dir.	F >> H	Auto Coil Select	Default
Rotation	90.00 deg	Shim mode	Standard
Phase oversampling	0 %		Off
FoV read	89 mm	Adjust with body coil	
FoV phase	75.0 %	Confirm freq. adjustment	Off
Slice thickness	0.35 mm	Assume Silicone	Off
		! Ref. amplitude 1H	130.000 V
TR	6000 ms	Adjustment Tolerance	Auto
TE	38.0 ms	Adjust volume	
Multi-band accel. factor	1	Position	R9.3 P82.8 F8.5
Filter	None	Orientation	Coronal
Coil elements	B1-8	Rotation	90.00 deg
Contrast		R >> L	89 mm
MTC	Off	— F >> H	67 mm
Magn. preparation	None	A >> P	14 mm
Flip angle	90 deg	Physio	
Fat suppr.	Fat sat.		Nege
· αι συρρί.	r at sat.	1st Signal/Mode	None
Averaging mode	Long term	BOLD	
Reconstruction	Magnitude	GLM Statistics	Off
Measurements	42	Dynamic t-maps	Off
Delay in TR	_		
	0 ms	Starting ignore meas	0
Multiple series	0 ms Off	Starting ignore meas Ignore after transition	0 0
•		Ignore after transition	0
Resolution	Off	Ignore after transition Model transition states	0 On
Resolution Base resolution	Off 256	Ignore after transition  Model transition states  Temp. highpass filter	0 On On
Resolution Base resolution Phase resolution	Off 256 100 %	Ignore after transition Model transition states Temp. highpass filter Threshold	0 On On 4.00
Resolution Base resolution Phase resolution Phase partial Fourier	Off  256 100 % 5/8	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size	0 On On 4.00 20
Resolution Base resolution Phase resolution	Off 256 100 %	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1]	0 On On 4.00 20 Baseline
Resolution Base resolution Phase resolution Phase partial Fourier Interpolation	Off  256 100 % 5/8 Off	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2]	0 On On 4.00 20 Baseline Baseline
Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode	Off  256 100 % 5/8 Off  GRAPPA	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3]	0 On On 4.00 20 Baseline Baseline Baseline
Resolution Base resolution Phase resolution Phase partial Fourier Interpolation  PAT mode Accel. factor PE	Off  256 100 % 5/8 Off  GRAPPA 2	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4]	0 On On 4.00 20 Baseline Baseline Baseline Baseline Baseline
Resolution  Base resolution Phase resolution Phase partial Fourier Interpolation  PAT mode Accel. factor PE Ref. lines PE	Off  256 100 % 5/8 Off  GRAPPA 2 44	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5]	0 On On 4.00 20 Baseline Baseline Baseline Baseline Baseline Baseline
Resolution Base resolution Phase resolution Phase partial Fourier Interpolation  PAT mode Accel. factor PE	Off  256 100 % 5/8 Off  GRAPPA 2	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6]	0 On On 4.00 20 Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline
Resolution  Base resolution Phase resolution Phase partial Fourier Interpolation  PAT mode Accel. factor PE Ref. lines PE Reference scan mode	Off  256 100 % 5/8 Off  GRAPPA 2 44 GRE	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7]	0 On On 4.00 20 Baseline
Resolution  Base resolution Phase resolution Phase partial Fourier Interpolation  PAT mode Accel. factor PE Ref. lines PE Reference scan mode  Distortion Corr.	Off  256 100 % 5/8 Off  GRAPPA 2 44 GRE	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8]	0 On On 4.00 20 Baseline
Resolution  Base resolution Phase resolution Phase partial Fourier Interpolation  PAT mode Accel. factor PE Ref. lines PE Reference scan mode  Distortion Corr. Prescan Normalize	Off  256 100 % 5/8 Off  GRAPPA 2 44 GRE  Off Off	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7]	0 On On 4.00 20 Baseline
Resolution  Base resolution Phase resolution Phase partial Fourier Interpolation  PAT mode Accel. factor PE Ref. lines PE Reference scan mode  Distortion Corr. Prescan Normalize Raw filter	Off  256 100 % 5/8 Off  GRAPPA 2 44 GRE  Off Off	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8]	0 On On 4.00 20 Baseline
Resolution  Base resolution 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	Off  256 100 % 5/8 Off  GRAPPA 2 44 GRE  Off Off Off On Off	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[7] Meas[8] Meas[9]	0 On On 4.00 20 Baseline
Resolution  Base resolution Phase resolution Phase partial Fourier Interpolation  PAT mode Accel. factor PE Ref. lines PE Reference scan mode  Distortion Corr. Prescan Normalize Raw filter	Off  256 100 % 5/8 Off  GRAPPA 2 44 GRE  Off Off	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11]	0 On On 4.00 20 Baseline
Resolution  Base resolution 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	Off  256 100 % 5/8 Off  GRAPPA 2 44 GRE  Off Off Off On Off	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12]	O On On A.00 20 Baseline Active Active
Resolution  Base resolution Phase resolution Phase partial Fourier Interpolation  PAT mode Accel. factor PE Ref. lines PE Reference scan mode  Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming  Geometry	Off  256 100 % 5/8 Off  GRAPPA 2 44 GRE  Off Off Off On Off	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13]	O On On A.00 20 Baseline Bateline Baseline Bateline
Resolution  Base resolution 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	Off  256 100 % 5/8 Off  GRAPPA 2 44 GRE  Off Off Off On Off	Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12]	O On On A.00 20 Baseline Active Active

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

Sequence			
Introduction	Off		
Bandwidth	574 Hz/Px		
Flow comp.	No		
Free echo spacing	Off		
Echo spacing	1.91 ms		
SIR accel. factor	1		
EPI factor	192		
Gradient mode	Normal		
RF spoiling	Off		
Excite pulse duration	8320 us		
Slice multiplier	1		
Fake MB factor for SB	1		
No. of interleaved TEs	0		
RF pulse shape	1		
EPI noise scans	0		
EPI full reference scan	0		
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		
FFT scale factor	0.05		
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		

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	Cyatam	
Inline movie	Off	System	0.5
Auto store images	On	B1	On
Load to stamp segments	Off	B2 B3	On On
Load images to graphic	Off	В3 В4	On
segments		B5	On
Auto open inline display	Off	B6	On
Start measurement without	On	B7	On
further preparation		B8	On
Wait for user to start	Off		
Start measurements	single	Positioning mode	FIX
Routine		MSMA	S - C - T
Slice group 1		- Sagittal	R >> L
Slices	20	Coronal	A >> P
Dist. factor	0 %	Transversal	F >> H
Position	R9.3 P82.8 F8.5	Coil Combine Mode	Sum of Squares
Orientation	Coronal	AutoAlign	
Phase enc. dir.	F >> H	Auto Coil Select	Default
Rotation	90.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
FoV read	89 mm	Confirm freq. adjustment	Off
FoV phase	75.0 %	Assume Silicone	Off
Slice thickness	0.70 mm	! Ref. amplitude 1H	130.000 V
TR	6000 ms	Adjustment Tolerance	Auto
TE	38.0 ms	Adjust volume	Adio
Multi-band accel, factor	1	! Position	R9.3 P82.8 F8.5
Filter	None	! Orientation	Coronal
Coil elements	B1-8	! Rotation	90.00 deg
	0	! R >> L	89 mm
Contrast		-	67 mm
MTC	Off	! A >> P	14 mm
Magn. preparation	None		
Flip angle	80 deg	Physio	
Fat suppr.	Fat sat.	1st Signal/Mode	None
Averaging mode	Long term	BOLD	
Reconstruction	Magnitude	GLM Statistics	Off
Measurements	42	Dynamic t-maps	Off
Delay in TR	0 ms	Starting ignore meas	0
Multiple series	Off	Ignore after transition	0
Resolution		Model transition states	On
Base resolution	256	- Temp. highpass filter	On
Phase resolution	256 100 %	Threshold	4.00
Phase resolution  Phase partial Fourier	5/8	Paradigm size	20
Interpolation	Off	Meas[1]	Baseline
	·····	Meas[2]	Baseline
PAT mode	GRAPPA	Meas[3]	Baseline
Accel. factor PE	2	Meas[4]	Baseline
Ref. lines PE	44	Meas[5]	Baseline
Reference scan mode	GRE	Meas[6]	Baseline
Distortion Corr.	Off	Meas[7]	Baseline
Prescan Normalize	OII	Meas[8]	Baseline
	Off		D 1:
	Off	Meas[9]	Baseline
Raw filter	On	Meas[9] Meas[10]	Baseline
Raw filter Elliptical filter	On Off	Meas[10] Meas[11]	Baseline Active
Raw filter	On	Meas[10] Meas[11] Meas[12]	Baseline Active Active
Raw filter Elliptical filter	On Off	Meas[10] Meas[11] Meas[12] Meas[13]	Baseline Active Active Active
Raw filter Elliptical filter Hamming	On Off	Meas[10] Meas[11] Meas[12] Meas[13] - Meas[14]	Baseline Active Active Active Active
Raw filter Elliptical filter Hamming Geometry	On Off Off	Meas[10] Meas[11] Meas[12] Meas[13]	Baseline Active Active Active

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

Sequence			
Introduction	Off		
Bandwidth	574 Hz/Px		
Flow comp.	No O#		
Free echo spacing	Off		
Echo spacing	1.91 ms		
SIR accel. factor	1		
EPI factor	192		
Gradient mode	Normal		
RF spoiling	Off		
Excite pulse duration	8320 us		
Slice multiplier	2		
Fake MB factor for SB	_ 1		
No. of interleaved TEs	0		
RF pulse shape	1		
EPI noise scans	0		
EPI full reference scan	0		
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		
FFT scale factor	0.05		
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		

\\USER\Feinberglab\Joseph\20170629\AV\_ep2d\_bold\_sd2ipat2mb1\_pt35mm\_8ch\_pt5slc\_ret TA: 4:44 PAT: 2 Voxel size: 0.3×0.3×0.5 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	
Auto store images	On	B1	On
Load to stamp segments	Off	B2	On
Load images to graphic	Off	B3	On
segments		B4	On
Auto open inline display	Off	B5	On
Start measurement without	On	B6	On
further preparation		B7	On
Wait for user to start	Off	B8	On
Start measurements	single	Positioning mode	FIX
	3	MSMA	S - C - T
Routine		— Sagittal	R >> L
Slice group 1		Coronal	A >> P
Slices	20	Transversal	F >> H
Dist. factor	40 %	Coil Combine Mode	Sum of Squares
Position	R9.3 P82.8 F8.5	AutoAlign	
Orientation	Coronal	Auto Coil Select	Default
Phase enc. dir.	F >> H		
Rotation	90.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
FoV read	89 mm	Confirm freq. adjustment	Off
FoV phase	75.0 %	Assume Silicone	Off
Slice thickness	0.50 mm	! Ref. amplitude 1H	130.000 V
TR	6000 ms	Adjustment Tolerance	Auto
TE	38.0 ms	Adjust volume	
Multi-band accel. factor	1	! Position	R9.3 P82.8 F8.5
Filter	None	! Orientation	Coronal
Coil elements	B1-8	! Rotation	90.00 deg
a		! R >> L	89 mm
Contrast	~	— !F>> H	67 mm
MTC	Off	! A >> P	14 mm
Magn. preparation	None	I	
Flip angle	85 deg	Physio	
Fat suppr.	Fat sat.	1st Signal/Mode	None
Averaging mode	Long term	BOLD	
Reconstruction	Magnitude	GLM Statistics	Off
Measurements	42	Dynamic t-maps	Off
Delay in TR	0 ms	Starting ignore meas	0
Multiple series	Off	Ignore after transition	0
•		Model transition states	On
Resolution		Temp. highpass filter	On
Base resolution	256	Threshold	4.00
Phase resolution	100 %	Paradigm size	20
Phase partial Fourier	5/8	Meas[1]	Baseline
Interpolation	Off	Meas[1]	Baseline
PAT mode	GRAPPA	Meas[3]	Baseline
Accel. factor PE	2	Meas[3] Meas[4]	Baseline Baseline
Ref. lines PE	2 44		Baseline
		Meas[5]	
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
· ·		Meas[12]	Active
Geometry		Meas[13]	Active
	Interleaved	Meas[14]	Active
Multi-slice mode	IIILEITEAVEU		7 101.10
Multi-slice mode Series	Interleaved	Meas[15] Meas[16]	Active

Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
1	

Sequence	
Introduction	Off
Bandwidth	574 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	1.91 ms
SIR accel. factor	1
EPI factor	192
Gradient mode	Normal
RF spoiling	Off
Excite pulse duration	8320 us
Slice multiplier	2
Fake MB factor for SB	1
No. of interleaved TEs	0
RF pulse shape	1
EPI noise scans	0
EPI full reference scan	0
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
FFT scale factor	0.05
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

### Table of contents

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