\\USER\AMRIT\Liyong2\newCSF\localizer \\USER\size: 1.1×1.0×7.0 mm \quad Rel. SNR: 1.00

SIEMENS: gre

TA: 0:13

PAT: Off

.,	7(1. 6)1	1.0 11111 1.00	
Properties		Phase resolution Phase partial Fourier	90 % Off
Prio Recon	Off	Interpolation	On
Before measurement			
After measurement		PAT mode	None
Load to viewer	On	Matrix Coil Mode	Auto (CP)
Inline movie	Off		
Auto store images	On	Image Filter	Off
Load to stamp segments	Off	Distortion Corr.	Off
	Off	Unfiltered images	Off
Load images to graphic	Oli	Prescan Normalize	On
segments	0"	Normalize	Off
Auto open inline display	Off	B1 filter	Off
Start measurement without	Off	Raw filter	Off
further preparation		Elliptical filter	On
Wait for user to start	Off	Mode	Inplane
Start measurements	single	Wode	прапе
Routine		Geometry	
		- Multi-slice mode	Sequential
Slice group 1	4	Series	Interleaved
Slices	1		
Dist. factor	20 %	Saturation mode	Standard
Position	Isocenter	Special sat.	None
Orientation	Sagittal		
Phase enc. dir.	A >> P	Tim CT mode	Off
Rotation	0.00 deg	ı	Oli
Slice group 2		System	
Slices	1	Body	Off
Dist. factor	20 %	NE2 NE2	On
Position	Isocenter	NE1	On
		HEP	On
Orientation	Transversal	HEA	On
Phase enc. dir.	A >> P	SP4	Off
Rotation	0.00 deg	SP2	Off
Slice group 3			
Slices	1	SP8	Off
Dist. factor	20 %	SP6	Off
Position	Isocenter	SP3	Off
Orientation	Coronal	SP1	On
Phase enc. dir.	R >> L	SP7	Off
Rotation	0.00 deg	SP5	Off
Phase oversampling	0 %		
	250 mm	Positioning mode	REF
FoV read		Table position	Н
FoV phase	100.0 %	Table position	0 mm
Slice thickness	7.0 mm	MSMA	S - C - T
TR	8.6 ms	Sagittal	R >> L
TE	4.00 ms	Coronal	A >> P
Averages	2	Transversal	F >> H
Concatenations	3	Save uncombined	Off
Filter	Prescan Normalize, Elliptical	Coil Combine Mode	Adaptive Combine
	filter	AutoAlign	
Coil elements	HEA;HEP;NE1,2;SP1	Auto Coil Select	Default
_	, , , , , , , , , , , , , , , , , , , ,	Auto Coli Select	Delauli
Contrast		Shim mode	Tune up
TD	0 ms	Adjust with body coil	Off
MTC	Off	Confirm freq. adjustment	Off
Magn. preparation	None	Assume Silicone	Off
Flip angle	20 deg		0.000 V
Fat suppr.	None	? Ref. amplitude 1H	
Water suppr.	None	Adjustment Tolerance	Auto
		Adjust volume	
Averaging mode	Short term	Position	Isocenter
Reconstruction	Magnitude	Orientation	Transversal
Measurements	1	Rotation	0.00 deg
Multiple series	Each measurement	R >> L	350 mm
1	_aan maaan omont	A >> P	263 mm
Resolution		F >> H	350 mm
Base resolution	256	- 1	·
1		Physio	
		1/+	

1st Signal/Mode Segments	None 1
Dark blood	Off
Resp. control	Off
Inline	
Subtract	Off
Liver registration	Off
Std-Dev-Sag Std-Dev-Cor	Off Off
Std-Dev-Cor Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off Off
PEI MIP - time	Off
Sequence	Oli
Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Bandwidth	320 Hz/Px
Flow comp. Allowed delay	No 0 s
RF pulse type	Normal
Gradient mode Excitation	Normal Slice-sel.
RF spoiling	On
Tit Spoining	011

\\USER\AMRIT\Liyong2\newCSF\t2_haste_sag_p2

roperties		Width	4
Prio Recon	Off	Unfiltered images	Off
	OII	B1 filter	Off
Before measurement		Raw filter	Off
After measurement		Elliptical filter	On
Load to viewer	On	Mode	Inplane
Inline movie	Off	·	
Auto store images	On	Geometry	
Load to stamp segments	Off	Multi-slice mode	Single shot
Load images to graphic	Off	Series	Interleaved
segments			
Auto open inline display	Off	Special sat.	None
Start measurement without	On		
further preparation	.	Tim CT mode	Off
Wait for user to start	Off	Cyatam	
Start measurements	single	System	
Start measurements	Single	Body	Off
outine		NE2	On
Slice group 1		— NE1	On
Slices	100	HEP	On
Dist. factor	0 %	HEA	On
Position	L1.9 A5.8 H28.8	SP4	Off
		SP2	Off
Orientation	Sagittal	SP8	Off
Phase enc. dir.	A >> P	SP6	Off
Rotation	0.00 deg	SP3	Off
Phase oversampling	0 %	SP1	Off
FoV read	192 mm		
FoV phase	100.0 %	SP7	Off
Slice thickness	2.0 mm	SP5	Off
TR	395 ms	Positioning mode	FIX
TE	76 ms	Table position	Н
Averages	1		0 mm
Concatenations	1	Table position	-
Filter	Normalize, Elliptical filter	MSMA	S - C - T
		Sagittal	R >> L
Coil elements	HEA;HEP;NE1,2	Coronal	A >> P
ontrast		Transversal	F >> H
MTC	Off	Save uncombined	Off
Magn. preparation	None	Coil Combine Mode	Adaptive Combine
Flip angle	110 deg	AutoAlign	
	None	Auto Coil Select	Default
Fat suppr.			
Water suppr.	None	Shim mode	Tune up
Restore magn.	Off	Adjust with body coil	Off
Averaging mode	Long term	Confirm freq. adjustment	Off
Reconstruction	Magnitude	Assume Silicone	Off
Measurements	wayimuu e 1	? Ref. amplitude 1H	0.000 V
	Tools made sure seed of	Adjustment Tolerance	Auto
Multiple series	Each measurement	Adjust volume	
esolution		Position	Isocenter
Base resolution	192	Orientation	Transversal
Phase resolution	100 %		
		Rotation	0.00 deg
Phase partial Fourier	5/8	R >> L	350 mm
Interpolation	Off	A >> P	263 mm
PAT mode	GRAPPA	F >> H	350 mm
Accel. factor PE	2	Dhysio	
Ref. lines PE	24	Physio	Nana
		1st Signal/Mode	None
Matrix Coil Mode	Auto (Triple)	Dark blood	Off
Reference scan mode	Integrated	Dark blood	OII
Image Filtor	Off	Resp. control	Off
Image Filter	Off	ı	
Distortion Corr.		Inline	
Prescan Normalize	Off	Subtract	Off
Normalize	On	Std-Dev-Sag	Off
	Medium	Std-Dev-Cor	Off
Intensity Cut off	20	Sta-Dev-Cor	Oli

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

Sequence

ſ	Introduction	On
	Dimension	2D
	Contrasts	1
	Bandwidth	592 Hz/Px
	Flow comp.	No
	Allowed delay	30 s
	Echo spacing	5.82 ms
	Turbo factor	192
	RF pulse type	Fast
	Gradient mode	Fast

\\USER\AMRIT\Liyong2\newCSF\ep2d_venc5_sag_FH_deep

USER: ep2d_venc_ms_sbmb_SAT

Voxel size: 1.5×1.5×5.0 mm Rel. SNR: 1.00

TA: 1:19:55

PAT: 2

		'	· – – – – – – – – – – – – – – – – – – –
		1	
Properties		Sat. region 1	
Prio Recon	Off	Thickness	50 mm
Before measurement		Position	L0.0 A97.8 H45.6
After measurement		Orientation	C > T-13.5
Load to viewer	On	Sat. region 2	
Inline movie	Off	Thickness	50 mm
Auto store images	On	Position	L0.0 P53.6 H81.9
Load to stamp segments	Off	Orientation	C > T-13.5
Load images to graphic	Off	Special sat.	None
segments		0	
Auto open inline display	Off	System	
Start measurement without	On	Body	Off
further preparation	-	NE2	On
Wait for user to start	Off	NE1	On
Start measurements	single	HEP	On
I .	5g.5	HEA	On
Routine		SP4	Off
Slice group 1		SP2	Off
Slices	1	SP8	Off
Dist. factor	700 %	SP6	Off
Position	R0.5 A11.8 H74.2	SP3	Off
Orientation	Sagittal	SP1	Off
Phase enc. dir.	A >> P	SP7	Off
Rotation	0.00 deg	SP5	Off
Phase oversampling	0 %		
FoV read	192 mm	Positioning mode	FIX
FoV phase	100.0 %	Table position	Н
Slice thickness	5.0 mm	Table position	0 mm
TR	5920 ms	MSMA	S - C - T
TE	34.0 ms	Sagittal	R >> L
Averages	1	Coronal	A >> P
Concatenations	1	Transversal	F >> H
Filter	None	Coil Combine Mode	Sum of Squares
Coil elements	HEA;HEP;NE1,2	AutoAlign	
1	1127,1121 ,1421,2	Auto Coil Select	Default
Contrast	0"	—— Shim mode	Standard
MTC	Off	Adjust with body coil	Off
Flip angle	25 deg	Confirm freq. adjustment	Off
Fat suppr.	Fat sat.	Assume Silicone	Off
Averaging mode	Long term	? Ref. amplitude 1H	0.000 V
Reconstruction	Magnitude	Adjustment Tolerance	Auto
Measurements	820	Adjust volume	71010
Delay in TR	0 ms	Position	R0.5 A11.8 H74.2
Multiple series	Off	Orientation	Sagittal
	Oli	Rotation	0.00 deg
Resolution		F >> H	192 mm
Base resolution	128	A >> P	192 mm
Phase resolution	100 %	R >> L	5 mm
Phase partial Fourier	6/8	K >> L	5 111111
Interpolation	Off	Physio	
DAT	OD 4 DD 4	1st Signal/Mode	None
PAT mode	GRAPPA	A maria	
Accel. factor PE	2	Angio	Cinaria alia
Ref. lines PE	24	Flow mode	Single dir.
Matrix Coil Mode	Auto (Triple)	Encodings	1
Reference scan mode	Separate	Velocity enc.	10 cm/s
Distortion Corr.	Off	Direction	F >> H
Prescan Normalize	Off	Magnitude sum	Off
Raw filter	Off	Sequence	
Elliptical filter	Off	Introduction	Off
	Off	Bandwidth	1776 Hz/Px
Hamming	Oli		Off
Geometry		Free echo spacing Echo spacing	0.94 ms
Multi-slice mode	Interleaved		
Series	Ascending	EPI factor	128
		5/4	

RF pulse type	Normal
Gradient mode	Fast
RF spoiling	On
RF90 duration MB Number DummyScan Number FOV Shift Number Shift K0 Center Every Other Slice SER Number Venc Repetition Spoil factor Skew Direction DualBand Sat FOV Dir Venc Type(0off,1+-,20+,3on,400++)	5120 1 5 1 1 1 1 1 800 5 1 0

\\US	ER\AMRIT\Liyong2\newCSF	- 	
TA: 1:19:55 PAT: 2	Voxel size: 1.5×1.5×5.0 mm	Rel. SNR: 1.00 USER: ep	o2d_venc_ms_sbmb_SAT
Properties		Sat. region 1	
Prio Recon	Off	Thickness	50 mm
Before measurement	311	Position	L0.0 A97.8 H45.6
After measurement		Orientation	C > T-13.5
Load to viewer	On	Sat. region 2	0 > 1 10.0
Inline movie	Off	Thickness	50 mm
Auto store images	On	Position	L0.0 P53.6 H81.9
Load to stamp segments	Off	Orientation	C > T-13.5
Load images to graphic	Off	Special sat.	None
segments	5	1 .	110110
Auto open inline display	Off	System	
Start measurement without	On	Body	Off
further preparation	.	NE2	On
Wait for user to start	Off	NE1	On
Start measurements	single	HEP	Off
ı	5.11g.15	HEA	Off
Routine		SP4	Off
Slice group 1		SP2	Off
Slices	1	SP8	Off
Dist. factor	700 %	SP6	Off
Position	R0.5 A22.1 F11.8	SP3	Off
Orientation	T > C6.5	SP1	Off
Phase enc. dir.	A >> P	SP7	Off
Rotation	0.00 deg	SP5	Off
Phase oversampling	0 %	Docitioning mode	FIV
FoV read	192 mm	Positioning mode	FIX
FoV phase	100.0 %	Table position	H
Slice thickness	5.0 mm	Table position MSMA	0 mm S - C - T
TR	5920 ms		
TE	34.0 ms	Sagittal	R >> L A >> P
Averages	1	Coronal	
Concatenations	1	Transversal	F >> H
Filter	None	Coil Combine Mode	Sum of Squares
Coil elements	NE1,2	AutoAlign	 D ()
Contract		Auto Coil Select	Default
Contrast	O#	- Shim mode	Standard
MTC Flip angle	Off	Adjust with body coil	Off
Flip angle	25 deg	Confirm freq. adjustment	Off
Fat suppr.	Fat sat.	Assume Silicone	Off
Averaging mode	Long term	? Ref. amplitude 1H	0.000 V
Reconstruction	Magnitude	Adjustment Tolerance	Auto
Measurements	820	Adjust volume	
Delay in TR	0 ms	Position	R0.5 A22.1 F11.8
Multiple series	Off	Orientation	T > C6.5
Resolution		Rotation	0.00 deg
	120	- R >> L	192 mm
Base resolution	128	A >> P	192 mm
Phase resolution	100 %	F >> H	5 mm
Phase partial Fourier	6/8	Physio	
Interpolation	Off	•	None
PAT mode	GRAPPA	1st Signal/Mode	None
Accel. factor PE	2	Angio	
Ref. lines PE	24	Flow mode	Single dir.
Matrix Coil Mode	Auto (Triple)	Encodings	1
Reference scan mode	Separate	Velocity enc.	10 cm/s
Diatoria - O		Direction	Through plane
Distortion Corr.	Off Off	Magnitude sum	Off
Prescan Normalize	Off	1	
Raw filter	Off	Sequence	0"
Elliptical filter	Off	Introduction	Off
Hamming	Off	Bandwidth	1776 Hz/Px
Geometry		Free echo spacing	Off
Multi-slice mode	Interleaved	Echo spacing	0.94 ms
	· · · · · · · · ·		

EPI factor

128

Series

Ascending

	RF pulse type Gradient mode RF spoiling	Normal Fast On
	RF90 duration MB Number DummyScan Number FOV Shift Number Shift K0 Center Every Other Slice SER Number Venc Repetition Spoil factor Skew Direction DualBand Sat FOV Dir Venc Type(0off,1+-,20+,3on,4	5120 1 5 1 1 1 1 1 800 5 1 0 0
I	00++)	

\\USER\AMRIT\Liyong2\newCSF\localizer

TA: 0:13 P	AT: Off Voxel size: 1.1×1.0×	7.0 mm Rel. SNR: 1.00	SIEMENS: gre
Dranautica		Phase resolution	90 %
Properties	0"	Phase partial Fourier	Off
Prio Recon	Off	Interpolation	On
Before measurement			None
After measurement	00	PAT mode	None
Load to viewer	On Off	Matrix Coil Mode	Auto (CP)
Inline movie Auto store images	Oπ On	Image Filter	Off
	Off	Distortion Corr.	Off
Load to stamp segments	Off	Unfiltered images	Off
Load images to graphic	Oii	Prescan Normalize	On
segments	Off	Normalize	Off
Auto open inline display Start measurement without	Off	B1 filter	Off
further preparation	Oli	Raw filter	Off
Wait for user to start	Off	Elliptical filter	On
Start measurements		Mode	Inplane
I	single	Geometry	
Routine		Geometry Multi clico mode	Sequential
Slice group 1		Multi-slice mode	Sequential Interleaved
Slices	1	Series	
Dist. factor	20 %	Saturation mode	Standard
Position	Isocenter	Special sat.	None
Orientation	Sagittal		
Phase enc. dir.	A >> P	Tim CT mode	Off
Rotation	0.00 deg	I	-
Slice group 2		System	
Slices	1	Body	Off
Dist. factor	20 %	NE2	Off
Position	Isocenter	NE1	Off
Orientation	Transversal	HEP	Off
Phase enc. dir.	A >> P	HEA	Off
Rotation	0.00 deg	SP4	On
Slice group 3	-	SP2	On
Slices	1	SP8	Off
Dist. factor	20 %	SP6	Off
Position	Isocenter	SP3	On
Orientation	Coronal	SP1	Off
Phase enc. dir.	R >> L	SP7	Off
Rotation	0.00 deg	SP5	On
Phase oversampling	0 %	Positioning mode	REF
FoV read	250 mm	Table position	H
FoV phase	100.0 %	Table position	0 mm
Slice thickness	7.0 mm	MSMA	S - C - T
TR	8.6 ms	Sagittal	8 - C - 1 R >> L
TE	4.00 ms	Coronal	A >> P
Averages	2	Transversal	A >> P F >> H
Concatenations	3	Save uncombined	Off
Filter	Prescan Normalize, Elliptical	Coil Combine Mode	Adaptive Combine
	filter	AutoAlign	
Coil elements	SP2-5	Auto Coil Select	 Default
Contract		Auto Coli Select	
Contrast		Shim mode	Tune up
TD	0 ms	Adjust with body coil	Off
MTC	Off	Confirm freq. adjustment	Off
Magn. preparation	None	Assume Silicone	Off
Flip angle	20 deg	? Ref. amplitude 1H	0.000 V
Fat suppr.	None	Adjustment Tolerance	Auto
Water suppr.	None	Adjust volume	
Averaging mode	Short term	Position	Isocenter
Reconstruction	Magnitude	Orientation	Transversal
Measurements	1	Rotation	0.00 deg
Multiple series	Each measurement	R >> L	350 mm
•	_aon moadaroment	A >> P	263 mm
Resolution		F >> H	350 mm
Base resolution	256	Physic	

Physio

1st Signal/Mode Segments	None 1
Dark blood	Off
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 Save original images Wash - In Wash - Out TTP PEI	Off
MIP - time Sequence	Off
Introduction Dimension Phase stabilisation Asymmetric echo Contrasts Bandwidth Flow comp. Allowed delay RF pulse type Gradient mode	On 2D Off Allowed 1 320 Hz/Px No 0 s Normal Normal
Excitation RF spoiling	Slice-sel. On

\\USER\AMRIT\Liyong2\newCSF\t2_haste_sag_p2

TA: 0:27 P.	AT: 2 Voxel size: 1.0×1.0×	2.5 mm Rel. SNR: 1.00 S	IEMENS: haste
Properties		Width	4
Prio Recon	Off	— Unfiltered images	Off
Before measurement	Oli	B1 filter	Off
After measurement		Raw filter	Off
Load to viewer	On	Elliptical filter	On
	_	Mode	Inplane
Inline movie	Off		•
Auto store images	On	Geometry	
Load to stamp segments	Off	Multi-slice mode	Single shot
Load images to graphic	Off	Series	Interleaved
segments		Charielant	Nama
Auto open inline display	Off	Special sat.	None
Start measurement without	On		
further preparation		Tim CT mode	Off
Wait for user to start	Off	Cuatana	
Start measurements		System	
Start measurements	single	Body	Off
Routine		NE2	Off
Slice group 1		─ NE1	Off
Slices	25	HEP	Off
Dist. factor	0 %	HEA	Off
		SP4	On
Position	R11.4 P6.3 H30.6	SP2	Off
Orientation	Sagittal	SP8	Off
Phase enc. dir.	A >> P		
Rotation	0.00 deg	SP6	Off
Phase oversampling	0 %	SP3	On
FoV read	192 mm	SP1	Off
FoV phase	100.0 %	SP7	Off
Slice thickness	2.5 mm	SP5	Off
	500 ms		
TR		Positioning mode	FIX
TE	76 ms	Table position	Н
Averages	2	Table position	0 mm
Concatenations	1	MSMA	S - C - T
Filter	Normalize, Elliptical filter	Sagittal	R >> L
Coil elements	SP3,4	Coronal	A >> P
	•	Transversal	F >> H
Contrast		Save uncombined	Off
MTC	Off		_
Magn. preparation	None	Coil Combine Mode	Adaptive Combine
Flip angle	110 deg	AutoAlign	
Fat suppr.	None	Auto Coil Select	Default
Water suppr.	None	Shim mode	Tune up
Restore magn.	Off		•
	•••••	Adjust with body coil	Off
Averaging mode	Long term	Confirm freq. adjustment	Off
Reconstruction	Magnitude	Assume Silicone	Off
Measurements	1	? Ref. amplitude 1H	0.000 V
Multiple series	Each measurement	Adjustment Tolerance	Auto
-	_aan maaaaraman	Adjust volume	
Resolution		Position	Isocenter
Base resolution	192	Orientation	Transversal
Phase resolution	100 %	Rotation	0.00 deg
Phase partial Fourier	5/8	R >> L	350 mm
Interpolation	Off	A >> P	263 mm
	— — — — — — — — — — — — — — — — — — —		
PAT mode	GRAPPA	F >> H	350 mm
Accel. factor PE	2	Physio	
Ref. lines PE	24	1st Signal/Mode	None
Matrix Coil Mode	Auto (Triple)		
Reference scan mode		Dark blood	Off
Reference Scari Mode	Integrated		
Image Filter	Off	Resp. control	Off
Distortion Corr.	Off	Inline	
Prescan Normalize	Off		0#
Normalize	On	Subtract	Off
		Std-Dev-Sag	Off
Intensity	Medium	Std-Dev-Cor	Off
Cut off	20	Std-Dev-Tra	Off
		44/.	

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

Sequence

Introduction	On
Dimension	2D
Contrasts	1
Bandwidth	592 Hz/Px
Flow comp.	No
Allowed delay	30 s
Echo spacing	5.4 ms
Turbo factor	192
RF pulse type	Fast
Gradient mode	Fast

\\USER\AMRIT\Liyong2\newCSF\ep2d_venc5_axial_L4_FH_deep

TA: 1:19:55 PAT: 2	Voxel size: 1.5×1.5×5.0 mm	Rel. SNR: 1.00 USER: e	p2d_venc_ms_sbmb_SAT
Properties		Sat ragion 1	
Prio Recon	Off	Sat. region 1 Thickness	50 mm
	Oil		
Before measurement		Position	L0.0 A97.8 H45.6
After measurement		Orientation	C > T-13.5
Load to viewer	On	Sat. region 2	
Inline movie	Off	Thickness	50 mm
Auto store images	On	Position	L0.0 P53.6 H81.9
Load to stamp segments	Off	Orientation	C > T-13.5
Load images to graphic segments	Off	Special sat.	None
Auto open inline display	Off	System	
Start measurement without	On	Body	Off
further preparation	3. .	NE2	Off
Wait for user to start	Off	NE1	Off
Start measurements		HEP	Off
Start measurements	single	HEA	Off
Routine		SP4	On
Slice group 1		SP2	Off
Slices	1	SP8	Off
Dist. factor	700 %	SP6	Off
Position	R0.5 A0.7 H8.6	SP3	On
Orientation	T > C1.3	SP1	Off
Phase enc. dir.	A >> P	SP7	Off
Rotation	0.00 deg	SP5	Off
Phase oversampling	0 %	D ''' 1	
FoV read	192 mm	Positioning mode	FIX
FoV phase	100.0 %	Table position	Н
Slice thickness	5.0 mm	Table position	0 mm
TR	5920 ms	MSMA	S - C - T
		Sagittal	R >> L
TE	34.0 ms	Coronal	A >> P
Averages	1	Transversal	F >> H
Concatenations	1	Coil Combine Mode	Sum of Squares
Filter	None	AutoAlign	
Coil elements	SP3,4	Auto Coil Select	Default
Contrast			
MTC	Off	Shim mode	Standard
Flip angle	25 deg	Adjust with body coil	Off
Fat suppr.	Fat sat.	Confirm freq. adjustment	Off
	·	Assume Silicone	Off
Averaging mode	Long term	? Ref. amplitude 1H	0.000 V
Reconstruction	Magnitude	Adjustment Tolerance	Auto
Measurements	820	Adjust volume	
Delay in TR	0 ms	Position	R0.5 A0.7 H8.6
Multiple series	Off	Orientation	T > C1.3
munipie senes	Oli		
Resolution		Rotation	0.00 deg
Base resolution	128	R >> L	192 mm
Phase resolution	100 %	A >> P	192 mm
		F >> H	5 mm
Phase partial Fourier	6/8	Dhyaia	
Interpolation	Off	Physio	N.
PAT mode	GRAPPA	1st Signal/Mode	None
Accel. factor PE	2	Angio	
Ref. lines PE	24	Flow mode	Single dir.
Matrix Coil Mode			1
	Auto (Triple)	Encodings	•
Reference scan mode	Separate	Velocity enc.	10 cm/s
Distortion Corr.	Off	Direction	Through plane
		Magnitude sum	Off
Prescan Normalize	Off		
Raw filter	Off	Sequence	
Elliptical filter	Off	Introduction	Off
Hamming	Off	Bandwidth	1776 Hz/Px
•		Free echo spacing	Off
Geometry		Echo spacing	0.94 ms
Multi-slice mode	Interleaved	1	

Ascending

Series

EPI factor

128

RF pulse type	Normal
Gradient mode	Fast
RF spoiling	On
RF90 duration MB Number DummyScan Number FOV Shift Number Shift K0 Center Every Other Slice SER Number Venc Repetition Spoil factor Skew Direction DualBand Sat FOV Dir Venc Type(0off,1+-,20+,3on,400++)	5120 1 5 1 1 1 1 1 800 5 1 0

\\USER\AMRIT\Liyong2\newCSF\ep2d_venc5_axial_L1_FH_shallow

TA: 1:19:55 PAT: 2	Voxel size: 1.5×1.5×5.0 mm	Rel. SNR: 1.00 USER: e	ep2d_venc_ms_sbmb_SAT
Б			
Properties		Sat. region 1	
Prio Recon	Off	Thickness	50 mm
Before measurement		Position	L0.0 A97.8 H45.6
After measurement		Orientation	C > T-13.5
Load to viewer	On	Sat. region 2	
Inline movie	Off	Thickness	50 mm
Auto store images	On	Position	L0.0 P69.2 H16.6
Load to stamp segments	Off	Orientation	C > T-13.5
Load images to graphic	Off	Special sat.	None
segments		1 .	
Auto open inline display	Off	System	
Start measurement without	On	Body	Off
	Oli	NE2	Off
further preparation	0"	NE1	Off
Wait for user to start	Off	HEP	Off
Start measurements	single	HEA	Off
Routine		SP4	On
		- SP2	_
Slice group 1	4		On O"
Slices	1	SP8	Off
Dist. factor	700 %	SP6	Off
Position	R0.5 P3.0 H113.7	SP3	On
Orientation	T > C1.3	SP1	Off
Phase enc. dir.	A >> P	SP7	Off
Rotation	0.00 deg	SP5	On
Phase oversampling	0 %		
FoV read	192 mm	Positioning mode	FIX
FoV phase	100.0 %	Table position	Н
Slice thickness	5.0 mm	Table position	0 mm
		MSMA	S - C - T
TR	5920 ms	Sagittal	R >> L
TE	34.0 ms	Coronal	A >> P
Averages	1	Transversal	F >> H
Concatenations	1	Coil Combine Mode	Sum of Squares
Filter	None		-
Coil elements	SP2-5	AutoAlign	 D ()
Contract		Auto Coil Select	Default
Contrast MTC	Off	- Shim mode	Standard
		Adjust with body coil	Off
Flip angle	25 deg	Confirm freq. adjustment	Off
Fat suppr.	Fat sat.	Assume Silicone	Off
Averaging mode	Long term	? Ref. amplitude 1H	0.000 V
Reconstruction	Magnitude	Adjustment Tolerance	Auto
Measurements			Auto
	820	Adjust volume	D0 5 D0 0 11440 7
Delay in TR	0 ms	Position	R0.5 P3.0 H113.7
Multiple series	Off	Orientation	T > C1.3
Resolution		Rotation	0.00 deg
Base resolution	128	- R >> L	192 mm
		A >> P	192 mm
Phase resolution	100 %	F >> H	5 mm
Phase partial Fourier	6/8	Dhusia	
Interpolation	Off	Physio	N.
PAT mode	GRAPPA	1st Signal/Mode	None
Accel. factor PE	2	Angio	
Ref. lines PE	24		Single dir
		Flow mode	Single dir.
Matrix Coil Mode	Auto (Triple)	Encodings	1
Reference scan mode	Separate	Velocity enc.	10 cm/s
Distortion Corr.	Off	Direction	Through plane
		Magnitude sum	Off
Prescan Normalize	Off	Coguenes	
Raw filter	Off	Sequence	~"
Elliptical filter	Off	Introduction	Off
Hamming	Off	Bandwidth	1776 Hz/Px
Geometry		Free echo spacing	Off
Geometry	Interlegued	Echo spacing	0.94 ms
Multi-slice mode	Interleaved	EDI footor	400
Series	Ascending	EPI factor	128

	RF pulse type Gradient mode RF spoiling	Normal Fast On
	RF90 duration MB Number DummyScan Number FOV Shift Number Shift K0 Center Every Other Slice SER Number Venc Repetition Spoil factor Skew Direction DualBand Sat FOV Dir Venc Type(0off,1+-,20+,3on,4	5120 1 5 1 1 1 1 1 800 5 1 0 0
I	00++)	

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		Image Filter	Off
operties		Image Filter Distortion Corr.	Off
Prio Recon	Off	Prescan Normalize	Off
Before measurement		Normalize	Off
After measurement		B1 filter	Off
Load to viewer	On	Raw filter	Off
Inline movie	Off		Off
Auto store images	On	Elliptical filter	Oli
Load to stamp segments	Off	Geometry	
Load images to graphic	Off	Multi-slice mode	Interleaved
segments		Series	Interleaved
Auto open inline display	Off		
Start measurement without	On	Saturation mode	Standard
further preparation		Special sat.	None
Wait for user to start	Off		
Start measurements	single	Tim CT mode	Off
	-··· ʊ ·-	System	
Outine Clab group 1		Body	Off
Slab group 1	4	HEP	On
Slabs	1	HEA	On
Dist. factor	20 %		
Position	R0.6 P4.2 H5.4	Positioning mode	REF
Orientation	Coronal	Table position	Н
Phase enc. dir.	R >> L	Table position	0 mm
Rotation	0.00 deg	MSMA	S - C - T
Phase oversampling	0 %	Sagittal	R >> L
Slice oversampling	0.0 %	Coronal	A >> P
Slices per slab	48	Transversal	F >> H
FoV read	200 mm	Save uncombined	Off
FoV phase	100.0 %	Coil Combine Mode	Adaptive Combine
Slice thickness	1.60 mm	AutoAlign	
TR	40 ms	Auto Coil Select	Default
TE 1	3.98 ms	Chima mada	T
TE 2	13.94 ms	Shim mode	Tune up
TE 3	17.95 ms	Adjust with body coil	Off
TE 4	21.93 ms	Confirm freq. adjustment	Off
TE 5	25.91 ms	Assume Silicone	Off
TE 6	29.89 ms	? Ref. amplitude 1H	0.000 V
TE 7	33.87 ms	Adjustment Tolerance	Auto
Averages	1	Adjust volume	
Concatenations	1	Position	Isocenter
Filter	None	Orientation	Transversal
Coil elements	HEA;HEP	Rotation	0.00 deg
		R >> L	350 mm
ontrast	0"	A >> P	263 mm
MTC	Off	F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	12 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	None 1
Water suppr.	None		I
Averaging mode	Short term	Dark blood	Off
Reconstruction	Magnitude	Doop control	O#
Measurements	1	Resp. control	Off
Multiple series	Each measurement	Inline	
•		Subtract	Off
esolution		Liver registration	Off
Base resolution	192	Std-Dev-Sag	Off
Phase resolution	100 %	Std-Dev-Cor	Off
Slice resolution	100 %	Std-Dev-Coi	Off
Phase partial Fourier	Off	Std-Dev-Tra	Off
Slice partial Fourier	Off	MIP-Sag	Off
			_
	Off	MID Cor	Off
Interpolation	Off	MIP-Cor	Off
	Off None Auto (CP)	MIP-Cor MIP-Tra MIP-Time	Off Off Off

1	
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Sequence	
Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	7
Bandwidth 1	240 Hz/Px
Bandwidth 2	260 Hz/Px
Bandwidth 3	260 Hz/Px
Bandwidth 4	260 Hz/Px
Bandwidth 5	260 Hz/Px
Bandwidth 6	260 Hz/Px
Bandwidth 7	260 Hz/Px
Flow comp. 1	No
Flow comp. 2	No
Flow comp. 3	No
Flow comp. 4	No
Flow comp. 5	No
Flow comp. 6	No
Flow comp. 7	No
Readout mode	Bipolar
Allowed delay	0 s
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
•	

 $\verb|\USER\AMRIT\Liyong2\newCSF\fl_fq_mb1f1_gre_radial|$

Properties	TA: 0:22 PAT: Of	f Voxel size: 7.1×0.8×5.0 mm	Rel. SNR: 1.00 USER	: fl_fq_mb_gre_radial
Pio Recon Def	Properties		Pause after meas. 25	0.0 s
Before measurement		Off	Pause after meas. 26	0.0 s
After measurement Load to viewer on Inline move Off Pause after meas. 29 0.0 s Inline move Off Pause after meas. 31 0.0 s Auto store images On Pause after meas. 31 0.0 s Load industs or graphic Off Pause after meas. 32 0.0 s Load inages to graphic Off Pause after meas. 33 0.0 s Pause after meas. 34 0.0 s Pause after meas. 35 0.0 s Pause after meas. 36 0.0 s Pause after meas. 37 0.0 s Pause after meas. 39 0.0 s Pause after meas. 30 0.0 s Pause after meas. 40 0.0 s Pause after meas. 50 0.0 s Pause after meas. 60 0.0 s Pause after meas. 70 0.0 s Pause after meas.		Oli	Pause after meas. 27	0.0 s
Load to viewer			Pause after meas. 28	0.0 s
Data to Yelewin Orf Pause after meas. 30 0.0 s			Pause after meas. 29	0.0 s
Inline move				
Auto store images		-		
Load to stamp segments		_		
Load images to graphic segments Sagments Sagments Sagments Pause after meas. 34 0.0 s Pause after meas. 35 0.0 s Pause after meas. 36 0.0 s Pause after meas. 36 0.0 s Pause after meas. 36 0.0 s Pause after meas. 37 0.0 s Pause after meas. 39 0.0 s Pause after meas. 40 Pause after meas. 50 0.0 s Pause after meas. 70 0.0 s P	Load to stamp segments	Off		
segments Auto open inline display Start measurement without further preparation Off Pause after meas. 35 0.0 s Wait for user to start Unther preparation Off Pause after meas. 37 0.0 s Routine Pause after meas. 39 0.0 s Slice stock 1 1 Position Iscoenter 1 Phase seric dir. A > P Phase resolution 11 % Phase encidir. A > P Phase perstuline 0ff Polase encidir. A > P Phase perstuline 0ff Fol Pause oversampling 0 % Province Pause after meas. 30 0 ff Fol Pause actine incheses 1,00 % Distriction off Matrix Coll Mode Auto (CP) Fol Pause actine	Load images to graphic	Off		
Auto open inline display Start measurement without further preparation with further prepara	segments			
Start measurement without further proparation Wait for user to start Off Pause after meas. 38 0.0 s Pause after meas. 39 0.0 s Pause after meas. 40 Pause after meas. 50 Pause after meas. 60 Pause after	Auto open inline display	Off		
Formal F	Start measurement without	On		
Wait for user to start Start measurements Start measurements Start measurements Start measurements Start measurement Start measurem	further preparation			
Start measurements		Off		
Routine Resolution Slice group 1 Slices 1 Slices 1 Phase partial Fourier Off Phase partial Fourier Off Off Off Phase partial Fourier Off	Start measurements	single		
Silces 1	l	5g.5	Multiple series	Each measurement
Silces			Resolution	
Dist. factor		4	Base resolution	256
Dist. factor 20 % Phase partial Fourier Off			Phase resolution	11 %
Position Societies Trajectory Cartesian Interpolation Off				
Orientation Transversal Phase enc. dir. A >> P Interpolation Off Rotation 0.00 deg PAT mode None Phase oversampling 0 % Matrix Coil Mode Auto (CP) FoV read 200 mm Image Filter Off FoV phase 100.0 % Image Filter Off Slice thickness 5.0 mm Prescan Normalize Off TR 1.580 ms Prescan Normalize Off TE 4.12 ms B filter Off Averages 1 Raw filter Off Concatenations 1 Raw filter Off Filter None Elliptical filter Off Coil elements BC Geometry Sequential Filp angle 15 deg Special sat. None Contrast Filp angle 15 deg Special sat. None Formation Magnitude System Special sat. None Averaging mode Short term Special sat. Non			•	
Phase enc. dir. A > P Rotation 0.00 deg Phase eversampling 0 % Matrix Coil Mode Auto (CP)	Orientation			
Phase oversampling Phase 200 mm FoV phase 100.0 % 100.	Phase enc. dir.			
FoV read	Rotation	0.00 deg	PAT mode	None
FoV phase	Phase oversampling	0 %	Matrix Coil Mode	Auto (CP)
Fov prase	FoV read	200 mm		
Slice thickness 5.0 mm District Corr. Off TR 15.80 ms 15.80 ms Presca Normalize Off Averages 1	FoV phase	100.0 %		
TR				
TE				
Averages			Normalize	Off
Concatenations Filter None Elliptical filter Off			B1 filter	Off
Filter			Raw filter	Off
Note		·	Elliptical filter	Off
Multi-slice mode Sequential				
Series Interleaved	Coll elements	BC		Onwential
Averaging mode Short term Special sat. None				
Reconstruction Magnitude System	Flip angle	15 deg		
Reconstruction Magnitude System Measurements 40 Body On Pause after meas. 1 0.0 s HEP Off Pause after meas. 2 0.0 s HEA Off Pause after meas. 3 0.0 s Positioning mode REF Pause after meas. 4 0.0 s Positioning mode REF Pause after meas. 5 0.0 s Table position H Pause after meas. 6 0.0 s MSMA S - C - T Pause after meas. 7 0.0 s MSMA S - C - T Pause after meas. 8 0.0 s Sagittal R >> L Coronal A >> P Transversal F >> H Pause after meas. 10 0.0 s Transversal F >> H Pause after meas. 11 0.0 s Auto Coil Combine Mode Adaptive Combine Pause after meas. 13 0.0 s Auto Coil Select Default Pause after meas. 14 0.0 s Shim mode Tune up Pause after meas. 15 0.0 s Adjust with body coil Off <td>Averaging mode</td> <td>Short term</td> <td>Special sat.</td> <td>None</td>	Averaging mode	Short term	Special sat.	None
Measurements Pause after meas. 1 40 Body On Pause after meas. 2 0.0 s HEP Off Pause after meas. 3 0.0 s HEA Off Pause after meas. 4 0.0 s Positioning mode REF Pause after meas. 5 0.0 s Table position H Pause after meas. 6 0.0 s Table position 0 mm Pause after meas. 6 0.0 s Table position 0 mm Pause after meas. 7 0.0 s MSMA S - C - T Pause after meas. 8 0.0 s Sagittal R >> L Coronal A >> P Transversal F > H Pause after meas. 10 0.0 s Transversal F > H Pause after meas. 11 0.0 s AutoAlign Pause after meas. 13 0.0 s Auto Coil Select Default Pause after meas. 14 0.0 s Shim mode Tune up Adjust with body coil Off Pause after meas. 17 0.0 s Assum Silicone Off	5 5		System	
Pause after meas. 1 0.0 s HEP Off Pause after meas. 2 0.0 s HEA Off Pause after meas. 3 0.0 s Positioning mode REF Pause after meas. 4 0.0 s Positioning mode REF Pause after meas. 5 0.0 s Positioning mode REF Pause after meas. 6 0.0 s Table position 0 mm Pause after meas. 7 0.0 s MSMA S - C - T Pause after meas. 8 0.0 s Sagittal R >> L Pause after meas. 9 0.0 s Coronal A >> P Pause after meas. 10 0.0 s Transversal F >> H Pause after meas. 11 0.0 s Coil Combine Mode Adaptive Combine Pause after meas. 12 0.0 s Auto Coil Select Default Pause after meas. 13 0.0 s Shim mode Tune up Pause after meas. 14 0.0 s Adjust with body coil Off Pause after meas. 15 0.0 s Adjust will mean Off Pause after meas. 17		_		<u> </u>
Pause after meas. 2 0.0 s HEA Off Pause after meas. 3 0.0 s Positioning mode REF Pause after meas. 4 0.0 s Table position H Pause after meas. 5 0.0 s Table position 0 mm Pause after meas. 6 0.0 s MSMA S - C - T Pause after meas. 8 0.0 s Sagittal R >> L Pause after meas. 9 0.0 s Coronal A >> P Pause after meas. 10 0.0 s Transversal F >> H Pause after meas. 11 0.0 s Coil Combine Mode Adaptive Combine Pause after meas. 12 0.0 s Auto Align Pause after meas. 13 0.0 s Auto Coil Select Default Pause after meas. 14 0.0 s Shim mode Tune up Pause after meas. 16 0.0 s Adjust with body coil Off Pause after meas. 17 0.0 s Assume Silicone Off Pause after meas. 18 0.0 s ? Ref. amplitude 1H 0.000 V Pause after meas. 21 </td <td></td> <td></td> <td></td> <td></td>				
Pause after meas. 3 0.0 s Positioning mode REF Pause after meas. 4 0.0 s Positioning mode REF Pause after meas. 5 0.0 s Table position H Pause after meas. 6 0.0 s Table position 0 mm Pause after meas. 7 0.0 s MSMA S - C - T Pause after meas. 8 0.0 s Sagittal R >> L Coronal A >> P A >> P Pause after meas. 10 0.0 s Transversal F >> H Coil Combine Mode Adaptive Combine AutoAlign AutoAlign Pause after meas. 12 0.0 s Auto Coil Select Default Pause after meas. 14 0.0 s Shim mode Tune up Pause after meas. 15 0.0 s Adjust with body coil Off Pause after meas. 16 0.0 s Confirm freq. adjustment Off Pause after meas. 18 0.0 s Ref. amplitude 1H 0.000 V Pause after meas. 20 0.0 s Adjust volume Pa				
Pause after meas. 4 0.0 s Positioning mode REF Pause after meas. 5 0.0 s Table position H Pause after meas. 6 0.0 s MSMA S - C - T Pause after meas. 7 0.0 s MSMA S - C - T Pause after meas. 8 0.0 s Sagittal R >> L Pause after meas. 9 0.0 s Coronal A >> P Pause after meas. 10 0.0 s Transversal F >> H Pause after meas. 11 0.0 s Coil Combine Mode Adaptive Combine Pause after meas. 12 0.0 s Auto Coil Select Default Pause after meas. 13 0.0 s Shim mode Tune up Pause after meas. 14 0.0 s Adjust with body coil Off Pause after meas. 15 0.0 s Adjust with body coil Off Pause after meas. 16 0.0 s Confirm freq. adjustment Off Pause after meas. 18 0.0 s ? Ref. amplitude 1H 0.000 V Pause after meas. 20 0.0 s Adjustment Tolerance Auto			HEA	Off
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Pause after meas. 18 0.0 s ? Ref. amplitude 1H 0.000 V Pause after meas. 20 0.0 s Adjustment Tolerance Auto Pause after meas. 21 0.0 s Adjust volume Pause after meas. 21 0.0 s Position Isocenter Pause after meas. 22 0.0 s Orientation Transversal Pause after meas. 23 0.0 s Rotation 0.00 deg				
Pause after meas. 19 0.0 s Pause after meas. 20 0.0 s Pause after meas. 21 0.0 s Pause after meas. 21 0.0 s Pause after meas. 22 0.0 s Pause after meas. 23 0.0 s				_
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Pause after meas. 20 0.0 s Pause after meas. 21 0.0 s Pause after meas. 22 0.0 s Pause after meas. 22 0.0 s Pause after meas. 23 0.0 s Pause after meas. 23 0.0 s Rotation 0.00 deg			Adjustment Tolerance	Auto
Pause after meas. 21 0.0 s Pause after meas. 22 0.0 s Pause after meas. 23 0.0 s Position Isocenter Orientation Transversal Rotation 0.00 deg	Pause after meas. 20			
Pause after meas. 22 0.0 s Pause after meas. 23 0.0 s Rotation Transversal Rotation 0.00 deg	Pause after meas 21	0.0 s		Isocenter
Pause after meas. 23 0.0 s Rotation 0.00 deg	i adoo aitoi iiload. Zi			
Totalion C.50 dog		0.0 s	Orientation	Transversal
, i agos anoi mouo, E i vio o I R X I KAI mm	Pause after meas. 22			

A >> P F >> H	263 mm 350 mm
Physio	
1st Signal/Mode Segments	None 1
Angio	
Flow mode Encodings Velocity enc. Direction Rephased images Magnitude images Phase images	Single dir. 1 90 cm/s Through plane On On On
Subtract Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra Std-Dev-Time MIP-Sag MIP-Cor MIP-Tra MIP-Time Save original images	Off
Sequence	
Introduction Asymmetric echo Contrasts Bandwidth Flow comp.	On Off 1 260 Hz/Px No
RF pulse type Gradient mode RF spoiling	Normal Fast On
MB Number FOV Shift Interleave Factor Radial(1) Venc direction(1)	1 1 1 1 1

\\USER\AMRIT\Liyong2\newCSF\fl_fq_mb2f2_gre_radial

USER: fl_fq_mb_gre_radial

Voxel size: 7.1×0.8×5.0 mm Rel. SNR: 1.00

PAT: Off

TA: 0:11

TA. U.TT PAT. OII	VOXELSIZE. 7.1XU.0XS.U IIIIII	Rei. SINK. 1.00 USE	rk. II_Iq_IIIb_gre_radiai
		Dougo ofter many 25	0.0.5
Properties		Pause after meas. 25 Pause after meas. 26	0.0 s 0.0 s
Prio Recon	Off	Pause after meas. 27	0.0 s 0.0 s
Before measurement		Pause after meas. 28	0.0 s
After measurement		Pause after meas. 29	0.0 s
Load to viewer	On	Pause after meas. 30	0.0 s
Inline movie	Off	Pause after meas. 31	0.0 s
Auto store images	On	Pause after meas. 32	0.0 s
Load to stamp segments	Off	Pause after meas. 33	0.0 s
Load images to graphic	Off	Pause after meas. 34	0.0 s
segments		Pause after meas. 35	0.0 s
Auto open inline display	Off	Pause after meas. 36	0.0 s
Start measurement without	On	Pause after meas. 37	0.0 s
further preparation		Pause after meas, 38	0.0 s
Wait for user to start	Off	Pause after meas. 39	0.0 s
Start measurements	single	Multiple series	Each measurement
Routine		Resolution	
Slice group 1	_		250
Slices	2	Base resolution	256 11 %
Dist. factor	200 %	Phase resolution	Off
Position	Isocenter	Phase partial Fourier Trajectory	Cartesian
Orientation	Transversal	Interpolation	Off
Phase enc. dir.	A >> P		
Rotation	0.00 deg	PAT mode	None
Phase oversampling	0 %	Matrix Coil Mode	Auto (CP)
FoV read	200 mm	Image Filter	Off
FoV phase	100.0 %	Distortion Corr.	Off
Slice thickness	5.0 mm	Prescan Normalize	Off
TR	15.80 ms	Normalize	Off
TE	4.12 ms	B1 filter	Off
Averages	1	Raw filter	Off
Concatenations	2	Elliptical filter	Off
Filter	None		
Coil elements	BC	Geometry	
Contrast		Multi-slice mode	Sequential
Flip angle	15 deg	Series	Interleaved
Averaging mode	Short term	Special sat.	None
Reconstruction	Magnitude	System	
Measurements	40	Body	On
Pause after meas. 1	0.0 s	HEP	Off
Pause after meas. 2	0.0 s	HEA	Off
Pause after meas, 3	0.0 s		
Pause after meas. 4	0.0 s	Positioning mode	REF
Pause after meas. 5	0.0 s	Table position	H
Pause after meas. 6	0.0 s	Table position	0 mm
Pause after meas. 7	0.0 s	MSMA	S-C-T
Pause after meas. 8	0.0 s	Sagittal	R >> L
Pause after meas. 9	0.0 s	Coronal	A >> P
Pause after meas. 10	0.0 s	Transversal	F >> H
Pause after meas. 11	0.0 s	Coil Combine Mode	Adaptive Combine
Pause after meas. 12	0.0 s	AutoAlign Auto Coil Select	 Default
Pause after meas. 13	0.0 s	Auto Con Select	
Pause after meas. 14	0.0 s	Shim mode	Tune up
Pause after meas. 15	0.0 s	Adjust with body coil	Off
Pause after meas. 16	0.0 s	Confirm freq. adjustment	Off
Pause after meas. 17	0.0 s	Assume Silicone	Off
Pause after meas. 18	0.0 s	? Ref. amplitude 1H	0.000 V
Pause after meas. 19	0.0 s	Adjustment Tolerance	Auto
Pause after meas. 20	0.0 s	Adjust volume	
Pause after meas. 21	0.0 s	Position	Isocenter
Pause after meas. 22	0.0 s	Orientation	Transversal
Pause after meas. 23	0.0 s	Rotation	0.00 deg
Pause after meas. 24	0.0 s	R >> L	350 mm
	0	4/.	

A >> P F >> H	263 mm 350 mm
Physio	
1st Signal/Mode Segments	None 1
Angio	
Flow mode Encodings Velocity enc. Direction Rephased images Magnitude images Phase images	Single dir. 1 90 cm/s Through plane On On On
Subtract Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra Std-Dev-Time MIP-Sag MIP-Cor MIP-Tra MIP-Time Save original images	Off
Sequence	
Introduction Asymmetric echo Contrasts Bandwidth Flow comp.	On Off 1 260 Hz/Px No
RF pulse type Gradient mode RF spoiling	Normal Fast On
MB Number FOV Shift Interleave Factor Radial(1) Venc direction(1)	2 2 1 1 1

TA: 4:30 PAT: 2	Voxel size: 1.5×1.5×1.5 mm		I_fq_mb_gre_3D_seg
Properties		Elliptical filter	Off
Prio Recon	Off	Geometry	
Before measurement	OII	Multi-slice mode	Sequential
After measurement		Series	Ascending
Load to viewer	On		7.000mamg
Inline movie	Off	Special sat.	None
Auto store images	On	System	
Load to stamp segments	Off	Body	Off
Load images to graphic	Off	HEP	On
segments		HEA	On
Auto open inline display	Off		
Start measurement without	On	Positioning mode	REF
further preparation		Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA	S - C - T
I	3	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	2	Coil Combine Mode	Sum of Squares
Dist. factor	300 %	AutoAlign	
Position	R6.5 A17.9 F25.0	Auto Coil Select	Default
Orientation	Sagittal	Shim mode	Tune up
Phase enc. dir.	A >> P	Adjust with body coil	Off
Rotation	0.00 deg	Confirm freq. adjustment	Off
Phase oversampling	0 %	Assume Silicone	Off
Slice oversampling	0.0 % 12	? Ref. amplitude 1H	0.000 V
Slices per slab FoV read		Adjustment Tolerance	Auto
	192 mm	Adjust volume	
FoV phase Slice thickness	100.0 % 1.50 mm	Position	Isocenter
TR	69.25 ms	Orientation	Transversal
TE	5.52 ms	Rotation	0.00 deg
Averages	1	R >> L	350 mm
Concatenations	2	A >> P	263 mm
Filter	None	F >> H	350 mm
Coil elements	HEA;HEP	Dhysis	
Con ciomente	11273,1121	Physio 1st Signal/Mode	Pulse/Trigger
Contrast		S .	No Signal ms
Flip angle	15 deg	Average cycle Captured cycle	-not set-
Averaging mode	Short term	Acquisition window	700 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	2
•		Phases	10
Resolution		ļ	
Base resolution	128	Angio	
Phase resolution	100 %	Flow mode	Single vel.
Slice resolution	100 %	Encodings	3
Phase partial Fourier	Off	Velocity enc.	90 cm/s
Interpolation	Off	Direction 1	Through plane
PAT mode	GRAPPA	Direction 2	A >> P
Accel. factor PE	2	Direction 3	F >> H
Ref. lines PE	24	Rephased images	On
Accel. factor 3D	1	Magnitude images	On O#
Ref. lines 3D	12	Magnitude sum Phase images	Off
Matrix Coil Mode	Auto (Triple)		On
Reference scan mode	Separate	Subtract	Off
Imaga Filtor		Std-Dev-Sag	Off
Image Filter	Off	Std-Dev-Cor	Off
Distortion Corr.	Off	Std-Dev-Tra	Off
Prescan Normalize	Off	Std-Dev-Time	Off
Normalize B1 filter	Off Off	MIP-Sag	Off
Raw filter	Off	MIP-Cor	Off
I Taw Intol		MIP-Tra	Off

	MIP-Time Save original images	Off On
	Sequence	
ſ	Introduction	On
	Dimension	3D
	Elliptical scanning	Off
	Asymmetric echo	Off
	Contrasts	1
	Bandwidth	260 Hz/Px
	Flow comp.	No
	RF pulse type	Fast
	Gradient mode	Fast*
	RF spoiling	On
	MB Number	2
	FOV Shift	1

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USER: fl_fq_mb_gre_3D_seg

Voxel size: 1.5×1.5×1.5 mm Rel. SNR: 1.00

PAT: 2

TA: 4:30

171. 4.00	VOXC1 3126. 1.0X 1.0X 1.0X 1.0 111111	TKOL GIVIN 1.00 GGETK. I	
Properties		Elliptical filter	Off
Prio Recon	Off	Geometry	
Before measurement	Oli	Multi-slice mode	Sequential
After measurement		Series	Ascending
Load to viewer	On	Series	Ascending
Inline movie	Off	Special sat.	None
		Custom	
Auto store images	On Off	System	
Load to stamp segments	Off	Body	Off
Load images to graphic	Off	HEP	On
segments	2"	HEA	On
Auto open inline display	Off	Positioning mode	REF
Start measurement without	On	Table position	H
further preparation	•	Table position	0 mm
Wait for user to start	Off	MSMA	S - C - T
Start measurements	single	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1			
Slabs	1	Transversal	F >> H
Dist. factor	300 %	Coil Combine Mode	Sum of Squares
		AutoAlign	 D ()
Position	L29.5 A17.9 F25.0	Auto Coil Select	Default
Orientation	Sagittal	Shim mode	Tune up
Phase enc. dir.	A >> P	Adjust with body coil	Off
Rotation	0.00 deg	Confirm freq. adjustment	Off
Phase oversampling	0 %	Assume Silicone	Off
Slice oversampling	0.0 %	? Ref. amplitude 1H	0.000 V
Slices per slab	12		
FoV read	192 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	la a a a a ta a
Slice thickness	1.50 mm	Position	Isocenter
TR	69.25 ms	Orientation	Transversal
TE	5.52 ms	Rotation	0.00 deg
Averages	1	R >> L	350 mm
Concatenations	1	A >> P	263 mm
Filter	None	F >> H	350 mm
Coil elements	HEA;HEP	Physio	
		1st Signal/Mode	Pulse/Trigger
Contrast		Average cycle	No Signal ms
Flip angle	15 deg	Captured cycle	-not set-
Averaging mode	Short term	Acquisition window	700 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	2
Wattple series	Edon medadrement	Phases	10
Resolution		1 110303	10
Base resolution	128	Angio	
Phase resolution	100 %	Flow mode	Single vel.
Slice resolution	100 %	Encodings	3
Phase partial Fourier	Off	Velocity enc.	90 cm/s
Interpolation	Off	Direction 1	Through plane
DAT made	CDADDA	Direction 2	A >> P
PAT mode	GRAPPA	Direction 3	F >> H
Accel. factor PE	2	Rephased images	On
Ref. lines PE	24	Magnitude images	On
Accel. factor 3D	1	Magnitude sum	Off
Ref. lines 3D	12	Phase images	On
Matrix Coil Mode	Auto (Triple)		
Reference scan mode	Separate	Subtract	Off
Image Filter	Off	Std-Dev-Sag	Off
Distortion Corr.	Off	Std-Dev-Cor	Off
Prescan Normalize	Off	Std-Dev-Tra	Off
Normalize	Off	Std-Dev-Time	Off
B1 filter	Off	MIP-Sag	Off
Raw filter	Off	MIP-Cor	Off
Naw IIIIGI	OII	MIP-Tra	Off

	MIP-Time Save original images	Off On
	Sequence	
ı	Introduction	On
	Dimension	3D
	Elliptical scanning	Off
	Asymmetric echo	Off
	Contrasts	1
	Bandwidth	260 Hz/Px
	Flow comp.	No
	RF pulse type	Fast
	Gradient mode	Fast*
	RF spoiling	On
	MB Number	1
	FOV Shift	1

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TA: 0:22 PA	T: Off Voxel size: 1.0×0.8×4	0.0 mm Rel. SNR: 1.00	SIEMENS: fl_pc
Properties		Body	Off
Prio Recon	Off	HEP	On
Before measurement	Oll	HEA	On
After measurement		Positioning mode	REF
Load to viewer	On	Table position	H
Inline movie	Off	Table position	0 mm
Auto store images	On	MSMA	S - C - T
Load to stamp segments	On	Sagittal	R >> L
Load images to graphic	Off	Coronal	A >> P
segments	-	Transversal	F >> H
Auto open inline display	Off	Coil Combine Mode	Sum of Squares
Start measurement without	On	AutoAlign	
further preparation		Auto Coil Select	Default
Wait for user to start	Off		
Start measurements	single	Shim mode	Standard
	g	Adjust with body coil	Off
Routine		Confirm freq. adjustment	Off
Slice group 1		Assume Silicone	Off
Slices	1	? Ref. amplitude 1H	0.000 V
Dist. factor	20 %	Adjustment Tolerance	Auto
Position	R4.0 A13.8 F15.5	Adjust volume	D4.0.446.0.545.5
Orientation	C > T-6.8	Position	R4.0 A13.8 F15.5
Phase enc. dir.	R >> L	Orientation	C > T-6.8
Rotation	0.00 deg	Rotation	0.00 deg
Phase oversampling	0 %	F >> H	200 mm
FoV read	200 mm	R >> L	200 mm
FoV phase	100.0 %	A >> P	40 mm
Slice thickness	40.0 mm	Physio	
TR	34.85 ms	1st Signal/Mode	None
TE	7.12 ms	Segments	1
Averages	3	1	
Concatenations	1	Angio	
Filter	Elliptical filter	Flow mode	Free
Coil elements	HEA;HEP	Encodings	2
Contrast		Velocity enc. 1	30 cm/s
Flip angle	10 deg	Velocity enc. 2	20 cm/s
		Direction 1	F >> H
Averaging mode	Long term	Direction 2	R >> L
Reconstruction	Magnitude	Rephased images	Off
Measurements	Tools made	Magnitude images	Off
Multiple series	Each measurement	Magnitude sum	On
Resolution		Phase images	On
Base resolution	256	Subtract	Off
Phase resolution	75 %	Std-Dev-Sag	Off
Phase partial Fourier	Off	Std-Dev-Cor	Off
Interpolation	Off	Std-Dev-Tra	Off
		Std-Dev-Time	Off
PAT mode	None	MIP-Sag	Off
Matrix Coil Mode	Auto (CP)	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Distortion Corr.	Off	MIP-Time	Off
Prescan Normalize	Off	Save original images	On
Normalize	Off		
B1 filter	Off	Sequence	
Raw filter	Off	Introduction	On
Elliptical filter	On	Dimension	2D
Mode	Inplane	Asymmetric echo	Weak
		Contrasts	1
Geometry		Bandwidth	212 Hz/Px
,	Sequential	Flow comp.	No
Multi-slice mode	•		
•	Interleaved	RF pulse type	Fast
Multi-slice mode Series	Interleaved	RF pulse type Gradient mode	Fast Whisper
Multi-slice mode	•	RF pulse type Gradient mode RF spoiling	Fast Whisper On

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TA: 4:30 PAT: 2	Voxel size: 1.6×1.6×1.6 mm	Rel. SNR: 1.00 USER: f	l_fq_mb_gre_3D_seg
Properties		Elliptical filter	Off
Prio Recon	Off	Geometry	
Before measurement		Multi-slice mode	Sequential
After measurement		Series	Ascending
Load to viewer	On	0	
Inline movie	Off	Special sat.	None
Auto store images	On	System	
Load to stamp segments	Off	Body	Off
Load images to graphic	Off	HEP	On
segments		HEA	On
Auto open inline display	Off		
Start measurement without	On	Positioning mode	REF
further preparation		Table position	H
Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA	S-C-T
Routine		Sagittal	R >> L
		Coronal	A >> P
Slab group 1	3	Transversal	F >> H
Slabs Dist. factor	2 100 %	Coil Combine Mode	Sum of Squares
		AutoAlign	 D ()
Position	L2.4 A20.6 H35.1	Auto Coil Select	Default
Orientation	Transversal	Shim mode	Tune up
Phase enc. dir.	A >> P	Adjust with body coil	Off
Rotation	0.00 deg	Confirm freq. adjustment	Off
Phase oversampling	0 %	Assume Silicone	Off
Slice oversampling	0.0 %	? Ref. amplitude 1H	0.000 V
Slices per slab	12	Adjustment Tolerance	Auto
FoV read	200 mm	Adjust volume	
FoV phase Slice thickness	100.0 %	Position	Isocenter
	1.60 mm	Orientation	Transversal
TR TE	69.25 ms	Rotation	0.00 deg
	5.52 ms	R >> L	350 mm
Averages	1 2	A >> P	263 mm
Concatenations Filter	None	F >> H	350 mm
Coil elements		1	
Con elements	HEA;HEP	Physio	
Contrast		1st Signal/Mode	Pulse/Trigger
Flip angle	15 deg	Average cycle	No Signal ms
Averaging model	Ch and to me	Captured cycle	-not set-
Averaging mode	Short term	Acquisition window	700 ms
Reconstruction Measurements	Magnitude	Trigger pulse	1
	1 Each measurement	Trigger delay	0 ms
Multiple series	Each measurement	Segments	2
Resolution		Phases	10
Base resolution	128	Angio	
Phase resolution	100 %	Flow mode	Single vel.
Slice resolution	100 %	Encodings	3
Phase partial Fourier	Off	Velocity enc.	90 cm/s
Interpolation	Off	Direction 1	Through plane
	OD 4 DD 4	Direction 2	A >> P
PAT mode	GRAPPA	Direction 3	R >> L
Accel. factor PE	2	Rephased images	On
Ref. lines PE	24	Magnitude images	On
Accel. factor 3D	1	Magnitude sum	Off
Ref. lines 3D	12	Phase images	On
Matrix Coil Mode	Auto (Triple)		-
Reference scan mode	Separate	Subtract	Off
Image Filter	Off	Std-Dev-Sag	Off
Distortion Corr.	Off	Std-Dev-Cor	Off
Prescan Normalize	Off	Std-Dev-Tra	Off
Normalize	Off	Std-Dev-Time	Off
B1 filter	Off	MIP-Sag	Off
Raw filter	Off	MIP-Cor	Off
	= ::	MIP-Tra	Off

MIP-Time Save original images	Off On	
Sequence		
Introduction	On	
Dimension	3D	
Elliptical scanning	Off	
Asymmetric echo	Off	
Contrasts	1	
Bandwidth	260 Hz/Px	
Flow comp.	No	
RF pulse type	Fast	
Gradient mode	Fast*	
RF spoiling	On	
MB Number	2	
FOV Shift	2	

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Properties	TA: 4:30 PAT: 2	Voxel size: 1.6×1.6×1.6 mm	Rel. SNR: 1.00 USER: f	l_fq_mb_gre_3D_seg
Prio Recon Off Geometry Geometry	Properties		Elliptical filter	Off
Before measurement		Off	Geometry	
After measurement Load to viewer Inline movie On Inline movie Series Ascending Auto store images Load to stamp segments Load to stamp segments of the segments o			•	Seguential
Load to viewer Inline movie Off Special sat. None Inline movie Off System Load to stamp segments Off Body Off Auto open inline display Start measurement without further preparation Off HEP On Auto open inline display Start measurement without further preparation Off Table position HEP On Wait for user to start Off Table position H Table position H Stab group 1 Siab 2 Table position H Table position H Slabs 2 Table position H Table position H Slabs prup 1 Start measurements Single Scornal A > P A > P Slabs for 1 100 % Tansversal A > P Tansversal A > P Tansversal A Utable position D on m F out all all all all all all all all all al				
Minime Move Off	Load to viewer	On	0	
Load to stamp segments Off Load images to graphic segments Off Auto open inline display Start measurement without further preparation On Wait for user to start Off Total position REF Table position 0 mm Start measurements Single Slabs for user to start Off Slabs group 1 Table position 0 mm Slabs propt 1 Transversal Position Some of Squares Position L2 4 A20.6 H15.9 Transversal Coll Combine Mode Sum of Squares Phase enc. dir. A >> P Auto Coil Select Default Phase enc. dir. A >> P Auto Coil Select Default Slice oversampling 0.% Shim mode Tune up Slice oversampling 0.% 2 mm Adust with body coil Off FoV read 200 mm Adust with body coil Off Adust with body coil Off FoV read 200 mm Adjust with body coil Off Adjust with body coil Off FoV read 5	Inline movie	Off	Special sat.	None
Load images to graphic segments Sagments Auto open inline display Start measurement without further preparation Wait for user to start Start measurements Single Start measurement Start me	Auto store images	On	System	
Segments Auto Appin inlined display Off		_	Body	Off
Auto open inline display Start measurement without further preparation		Off	HEP	On
Start measurement without On Wait for user to start Off Table position H Table position H Table position Orm Table position A >> P Transversal F >> H Coil Cornal A >> P Transversal F >> H Coil Combine Mode Sum of Squares AutoAlign AutoCoil Select Defautt Orm Or			HEA	On
Start measurements will be considered to the construction of th			Positioning mode	DEE
Wait for user to start Off Table position 0 mm Start measurements single MSMA S · C · T Soutine Sagittal R >> L Southe Coronal A >> P Slabs 2 Cotronal A >> P Slabs 2 Coll Combine Mode Sum of Squares Orientation L2.4 A20.6 H15.9 Auto Coll Select Default Orientation Transversal F >> H Auto Coll Select Default Postion L2.4 A20.6 H15.9 Auto Coll Select Default Postion L2.4 A20.6 H15.9 Auto Coll Select Default Rotation Auto Coll Select Default Default Slice poversampling 0.00 W Confirm freq, adjustment Off Slice oversampling 0.0% Assume Silicone Oif Slice brickness 1.60 mm Assume Silicone Oif FoV read 200 mm Adjust wolume Auto Adjustment Tolerance Alse particles 1.60 mm Position<		On		
Mama				
Sagittal R >> L				-
Routine Coronal A >> P Transversal F>> H Slab group 1 Slab group 1 Transversal F>> H Coil Combine Mode Sum of Squares Auto Audign Default	Start measurements	single		
Slab group 1 Slab group 1 Slab s 2 Dist, factor 100 % A20.6 H15.9 Auto Coil Select Default Defau	Routine			
Slabs 2	Slab group 1			
Dist. factor		2		
Position Orientation L2.4 A 20.6 H15.9 Auto Coil Select Default Orientation Phase enc. dir. A >> P A >> P A >> P A Double of the phase oversampling of the phase oversam	Dist. factor			-
Phase enc. dir. A >> P Shim mode Tune up Rotation 0.00 deg Adjust with body coil Off Phase oversampling 0.0 % Assume Silicone Off Silice oversampling 0.0 % Assume Silicone Off Silice per slab 12 ? Ref. amplitude 1H 0.000 V FoV phase 100.0 % Adjust volume Auto Slice thickness 1.60 mm Position Iscenter TR 69.25 ms Rotation 0.00 deg TE 5.52 ms Rotation 0.00 deg Averages 1 R > L 350 mm Concatenations 2 Physio Filler None F > H 350 mm Coll elements HEA;HEP Physio Signal/Mode Pulse/Trigger Averaging mode Short term Acquisition window 700 ms Filip angle 15 deg Acquisition window 700 ms Resolution 100 % Folyage delay 0 ms <td>Position</td> <td>L2.4 A20.6 H15.9</td> <td></td> <td>Default</td>	Position	L2.4 A20.6 H15.9		Default
Rotation	Orientation	Transversal	Obino no alla	T
Phase oversampling 0.0 % Slices per slab 12 2 7	Phase enc. dir.			•
Silice oversampling 0.76		0.00 deg		
Silice versampling				
FoV phase				
FoV phase 100.0 % Slice thickness 1.60 mm Position Isocenter	•			
Silice thickness 1.60 mm Position Socenter				Adio
TR	•			Isocenter
TE				
Averages				
A >> P				•
Filter				
Coil elements HEA;HEP Physio Contrast 1st Signal/Mode Pulse/Trigger Flip angle 15 deg Average cycle No Signal mis Averaging mode Short term Acquisition window 700 ms Reconstruction Magnitude Trigger pulse 1 Measurements 1 Trigger pulse 1 Multiple series Each measurement Segments 2 Resolution 128 Angio Phase resolution 100 % Flow mode Single vel. Slice resolution 100 % Encodings 3 Phase partial Fourier Off Velocity enc. 90 cm/s Interpolation Off Direction 1 Through plane PAT mode GRAPPA Direction 1 Through plane PAT mode GRAPPA Direction 2 A >> P Accel. factor PE 2 Rephased images On Accel. factor 3D 1 Magnitude sum Off Ref. lines 3D 12 Magn			F >> H	350 mm
Contrast Flip angle Flip angle Averaging mode Averaging mode Reconstruction Magnitude Measurements Multiple series Each measurement Base resolution Base resolution Base resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Accel. factor 3D Accel. factor 3D Matrix Coil Mode Reference scan mode Reference scan mode Reference scan mode Reference scan mode Ref. lines PE Average cycle 1 Trigger delay 0 ms Angio Flow mode Single vel. Angio Angio Average cycle Average cycle Plass On Magnitude images On Magnitude images On Magnitude images On Magnitude sum Off Ayeration Angio Argo Area Area Area Area Area Area Angio Flow mode Flow mode Flow mode	1		Dhysis	
Flip angle 15 deg Averaging mode Short term Reconstruction Magnitude Trigger pulse 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Con ciements	1127,1121		Dulas/Trigger
Averaging mode Reconstruction Magnitude Trigger pulse 1 Measurements 1 Trigger delay 0 ms Multiple series Each measurement Segments 2 Resolution 128 Phase resolution 100 % Flow mode Slice resolution 100 % Flow mode Slice resolution 0ff Direction 1 Through plane Direction 2 A > P PAT mode GRAPPA Direction 2 Direction 1 Direction 1 Direction 2 A > P Ref. lines PE 24 Rephased images On Magnitude images On Magnitude images On Magnitude images On Magnitude sum Off Std-Dev-Cor Off Std-Dev-Cor Off Std-Dev-Cor Off Std-Dev-Cor Off Std-Dev-Cor Off Std-Dev-Cor Off Std-Dev-Tra Off NIP-Cor Off MIP-Cor Off MIP-			J	
Averaging mode Reconstruction Magnitude Measurements Multiple series Each measurement Base resolution Base resolution Base resolution Base resolution Base resolution Base resolution Comparison Comparison Comparison Comparison Comparison Comparison Acquisition window Trigger pulse To mass Ammiss Ammiss Passe Timper pulse Trigger pulse Trigger pulse To mass Ammiss Ammiss Ampiss Trigger pulse Trigger pulse To mass Ammiss Ammiss Trigger pulse The mass Ammiss Trigger pulse The mass Ammiss Ampiss Amgis Velocity enc. Pour mode Single vel. Angio Amgis Velocity enc. Pour mass Ampis Passe Magnitude images On Magnitud	Flip angle	15 deg		•
Reconstruction Magnitude Trigger pulse 1 Measurements 1 Trigger delay 0 ms Multiple series Each measurement Segments 2 Resolution 128 Phases 10 Base resolution 100 % Flow mode Single vel. Slice resolution 100 % Flow mode Single vel. Flow mode Single vel. In rection 2 A	Averaging mode	Short term		
Measurements Multiple series 1 Trigger delay Segments 0 ms Resolution 128 Angio Phase resolution Phase resolution Slice resolution Slice resolution Off 100 % Flow mode Single vel. Interpolation Off Encodings 3 3 PAT mode Accel. factor PE Accel. factor PE Accel. factor 3D Accel. factor 3				
Multiple series Each measurement Segments 2 Phases 10 Resolution 128 Phase resolution 100 % Phase resolution 100 % Slice resolution 100 % Phase partial Fourier Off PAT mode Single vel. Interpolation Off Direction 1 Through plane PAT mode GRAPPA Direction 2 A >> P Ref. lines PE 24 Rephased images On Magnitude images On Magnitude images On Magnitude sum Off Phase images On Magnitude sum Off Phase images On Std-Dev-Cor Off Std-Dev-Cor Off Std-Dev-Cor Off Std-Dev-Tra Off Std-Dev-Tra Off Std-Dev-Tra Off Std-Dev-Tra Off Std-Dev-Time Off MIP-Sag Off MIP-Sag Off MIP-Cor Off MIP-Co		_		
Resolution Base resolution 128 Phase resolution 100 % Slice resolution 100 % Slice resolution 100 % Interpolation Off PAT mode GRAPPA Direction 2 A >> P Accel. factor PE 2 Accel. factor 3D 1 Ref. lines 3D 12 Matrix Coil Mode Reference scan mode Separate Image Filter Off Distortion Corr. Prescan Normalize Off Std-Dev-Cor Off Std-Dev-Crime Diff Std-Dev-Time Diff Std-Dev-Time Diff Std-Dev-Time Off MIP-Sag Off MIP-Cor Off MIP-Sag Off MIP-Cor Off MIP-Sag Off MIP-Cor Off M	Multiple series	Each measurement		
Base resolution Phase resolution Slice resolution 100 % Slice resolution Phase partial Fourier Interpolation Off PAT mode Accel. factor PE Accel. factor 3D Ref. lines 3D Ref. lines 3D Matrix Coil Mode Reference scan mode Ref. Diff Distortion Corr. Prescan Normalize Normalize Ref. Diff			•	
Phase resolution 100 % Slice resolution 100 % Slice resolution 100 % Phase partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 12 Matrix Coil Mode Auto (Triple) Reference scan mode Separate Separate Subtract Off Distortion Corr. Prescan Normalize Off B1 filter B1 filter B1 filter B2 Filter Off B3 MIP-Cor B1 filter B1 fil		120	Angia	
Slice resolution 100 % Encodings 3 Phase partial Fourier Off Velocity enc. 90 cm/s Interpolation Off Direction 1 Through plane PAT mode GRAPPA Direction 2 A >> P Accel. factor PE 2 Direction 3 R >> L Ref. lines PE 24 Rephased images On Accel. factor 3D 1 Magnitude images On Ref. lines 3D 12 Magnitude sum Off Reference scan mode Separate Subtract Off Distortion Corr. Off Std-Dev-Cor Off Prescan Normalize Off Std-Dev-Tra Off Normalize Off MIP-Sag Off B1 filter Off MIP-Sag Off MIP-Sag Off MIP-Cor Off MIP-Cor Off MIP-Cor Off			-	Cingle val
Phase partial Fourier Off Off Direction 1 Through plane PAT mode GRAPPA Direction 2 A >> P Accel. factor PE 2 Direction 3 R >> L Ref. lines PE 24 Rephased images On Magnitude images On Magnitude sum Off Phase images On Magnitude sum Off Phas				•
Interpolation Off Direction 1 Through plane PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 12 Matrix Coil Mode Auto (Triple) Reference scan mode Separate Image Filter Off Std-Dev-Cor Distortion Corr. Off Std-Dev-Tra Prescan Normalize Off Std-Dev-Time Off Normalize Off MIP-Sag Off B1 filter Off MIP-Sag Off Raw filter Off MIP-Cor Direction 1 Through plane Direction 2 A >> P Direction 2 A >> P Direction 2 A >> P Direction 3 R >> L Rephased images On Magnitude images On Magnitude sum Off Phase images On Std-Dev-Sag Off Std-Dev-Sag Off Std-Dev-Cor Off Std-Dev-Tra Off Std-Dev-Tra Off MIP-Sag Off MIP-Sag Off MIP-Cor Off			_	-
PAT mode Accel. factor PE Accel. factor PE Ref. lines PE Accel. factor 3D Accel. factor 3 Rephased images Accel. factor 3 Accel. factor 3 Rephased images Accel. factor 3 Accel. factor 4 Ac			1	
Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D Ref. lines 3D Reference scan mode Reference scan mode Reference scan mode Ref. Distortion Corr. Prescan Normalize Normalize B1 filter Coff Raw filter Coff Raw filter Coff Raw filter Coff Coff Raw filter Coff Coff Coff Coff Coff Coff Coff Cof				
Ref. lines PE 24 Accel. factor 3D 1 Ref. lines 3D 12 Matrix Coil Mode Auto (Triple) Reference scan mode Separate Subtract Off Distortion Corr. Off Prescan Normalize Off Normalize Off B1 filter Off B1 filter Off B2 filter Off B2 filter Off B3 filter Off B1 filter Off B2 filter Off B3 filter Off B4 filter Off Magnitude images On Magnitude sum Off Phase images On Magnitude sum Off Std-Dev-Sag Off Std-Dev-Sag Off Std-Dev-Cor Off Std-Dev-Tra Off Std-Dev-Tra Off MIP-Sag Off MIP-Sag Off MIP-Cor Off				
Accel. factor 3D 1 Ref. lines 3D 12 Matrix Coil Mode Auto (Triple) Reference scan mode Separate Subtract Off Distortion Corr. Off Prescan Normalize Off Normalize Off B1 filter Off B1 filter Off B2 wiftler Off B2 wiftler Off Magnitude images On Magnitude sum Off Phase images On Magnitude sum Off Std-Dev-Sag Off Std-Dev-Sag Off Std-Dev-Cor Off Std-Dev-Tra Off Std-Dev-Tra Off MIP-Sag Off MIP-Sag Off MIP-Cor Off				
Ref. lines 3D 12 Matrix Coil Mode Auto (Triple) Reference scan mode Separate Subtract Off Image Filter Off Std-Dev-Sag Off Distortion Corr. Off Std-Dev-Tra Off Normalize Off Std-Dev-Time Off B1 filter Off MIP-Sag Off B2 wiftler Off MIP-Cor Off				
Matrix Coil Mode Auto (Triple) Reference scan mode Separate Subtract Off Image Filter Off Std-Dev-Sag Off Distortion Corr. Off Std-Dev-Cor Off Prescan Normalize Off Std-Dev-Tra Off Normalize Off MIP-Sag Off B1 filter Off MIP-Sag Off Raw filter Off MIP-Cor Off				
Reference scan mode Reference scan mode Separate Subtract Std-Dev-Sag Off Std-Dev-Cor Std-Dev-Tra Off Std-Dev-Tra Off Std-Dev-Tra Off Std-Dev-Tra Off Normalize Off MIP-Sag MIP-Cor Off MIP-Cor Off				_
Image Filter Off Distortion Corr. Off Prescan Normalize Off Normalize Off B1 filter Off Paw filter Off MIP-Cor Off MIP-Cor Off				
Distortion Corr. Off Prescan Normalize Off Normalize Off B1 filter Off Raw filter Off Off MIP-Sag Off MIP-Cor Off MIP-Cor Off	Reference scan mode	oeparate		
Prescan Normalize Off Normalize Off B1 filter Off Raw filter Off MIP-Sag Off MIP-Cor Off	Image Filter	Off	•	
Normalize Off Normalize Off B1 filter Off Raw filter Off MIP-Sag Off MIP-Cor Off				
B1 filter Off MIP-Sag Off MIP-Cor Off	Prescan Normalize			
Raw filter Off MIP-Cor Off				
Raw filtor				
	Raw filter	Off	MIP-Tra	Off

MIP-Time Save original images	Off On
Sequence	
Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Off
Contrasts	1
Bandwidth	260 Hz/Px
Flow comp.	No
RF pulse type	Fast
Gradient mode	Fast*
RF spoiling	On
MB Number	2
FOV Shift	2

TA: 4:30 PAT: 2	Voxel size: 1.6×1.6×1.6 mm		- I - I - I - I - I - I - I - I - I - I
Properties		Elliptical filter	Off
Prio Recon	Off	Geometry	
Before measurement	Oli	Multi-slice mode	Sequential
After measurement		Series	Ascending
Load to viewer	On		
Inline movie	Off	Special sat.	None
Auto store images	On	System	
Load to stamp segments	Off	Body	Off
Load images to graphic	Off	HEP	On
segments		HEA	On
Auto open inline display	Off	Desitioning mode	DEE
Start measurement without	On	Positioning mode	REF H
further preparation		Table position	П 0 mm
Wait for user to start	Off	Table position MSMA	S - C - T
Start measurements	single	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Coil Combine Mode	Sum of Squares
Dist. factor	100 %	AutoAlign	
Position	L2.4 A20.6 H15.9	Auto Coil Select	Default
Orientation	Transversal		
Phase enc. dir.	A >> P	Shim mode	Tune up
Rotation	0.00 deg	Adjust with body coil	Off
Phase oversampling	0 %	Confirm freq. adjustment Assume Silicone	Off Off
Slice oversampling	0.0 %	? Ref. amplitude 1H	0.000 V
Slices per slab	12	Adjustment Tolerance	Auto
FoV read	200 mm	Adjust volume	Auto
FoV phase	100.0 %	Position	Isocenter
Slice thickness	1.60 mm	Orientation	Transversal
TR TE	69.25 ms 5.52 ms	Rotation	0.00 deg
Averages	1.02 ms	R >> L	350 mm
Concatenations	1	A >> P	263 mm
Filter	None	F >> H	350 mm
Coil elements	HEA:HEP	Physio	
		1st Signal/Mode	Pulse/Trigger
Contrast		Average cycle	No Signal ms
Flip angle	15 deg	Captured cycle	-not set-
Averaging mode	Short term	Acquisition window	700 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	2
Resolution		Phases	10
Base resolution	128	Angio	
Phase resolution	100 %	Flow mode	Single vel.
Slice resolution	100 %	Encodings	3
Phase partial Fourier	Off	Velocity enc.	90 cm/s
Interpolation	Off	Direction 1	Through plane
PAT mode	GRAPPA	Direction 2	A >> P
Accel, factor PE	2	Direction 3	R >> L
Ref. lines PE	24	Rephased images	On
Accel. factor 3D	1	Magnitude images	On
Ref. lines 3D	12	Magnitude sum	Off
Matrix Coil Mode	Auto (Triple)	Phase images	On
Reference scan mode	Separate	Subtract	Off
		Std-Dev-Sag	Off
Image Filter	Off	Std-Dev-Cor	Off
Distortion Corr. Prescan Normalize	Off Off	Std-Dev-Tra	Off
Normalize	Off	Std-Dev-Time	Off
B1 filter	Off	MIP-Sag	Off
Raw filter	Off	MIP-Cor	Off
1		MIP-Tra	Off

MIP-Time Save original images	Off On
Sequence	
Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Off
Contrasts	1
Bandwidth	260 Hz/Px
Flow comp.	No
RF pulse type	Fast
Gradient mode	Fast*
RF spoiling	On
	•
MB Number	1
FOV Shift	1

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TA: 4:30 PAT: 2	Voxel size: 1.5×1.5×3.0 mm	Rel. SNR: 1.00 USER: f	l_fq_mb_gre_3D_seg
Properties		Elliptical filter	Off
Prio Recon	Off	Geometry	
Before measurement		Multi-slice mode	Sequential
After measurement		Series	Ascending
Load to viewer	On		
Inline movie	Off	Special sat.	None
Auto store images	On	System	
Load to stamp segments	Off	Body	Off
Load images to graphic	Off	HEP	On
segments		HEA	On
Auto open inline display	Off		
Start measurement without	On	Positioning mode	REF
further preparation		Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA	S - C - T
Dantin	•	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	2	Coil Combine Mode	Sum of Squares
Dist. factor	100 %	AutoAlign	
Position	R6.5 A17.9 F25.0	Auto Coil Select	Default
Orientation	Sagittal	Shim mode	Tune up
Phase enc. dir.	A >> P	Adjust with body coil	Off
Rotation	0.00 deg	Confirm freq. adjustment	Off
Phase oversampling	0 %	Assume Silicone	Off
Slice oversampling	0.0 %	? Ref. amplitude 1H	0.000 V
Slices per slab	12	Adjustment Tolerance	Auto
FoV read	192 mm	Adjust volume	Adio
FoV phase	100.0 %	Position	Isocenter
Slice thickness	3.00 mm	Orientation	Transversal
TR	69.15 ms	Rotation	0.00 deg
TE	5.52 ms	R >> L	350 mm
Averages	1	A >> P	263 mm
Concatenations	2	F >> H	350 mm
Filter	None	ļ	330 11111
Coil elements	HEA;HEP	Physio	
Contrast		1st Signal/Mode	Pulse/Trigger
Flip angle	15 deg	Average cycle	No Signal ms
		Captured cycle	-not set-
Averaging mode	Short term	Acquisition window	700 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	2
Resolution		Phases	10
Base resolution	128	Angio	
Phase resolution	100 %	Flow mode	Cingle vol
Slice resolution	100 %	Encodings	Single vel. 3
Phase partial Fourier	Off	Velocity enc.	90 cm/s
Interpolation	Off	Direction 1	Through plane
			A >> P
PAT mode	GRAPPA	Direction 2 Direction 3	A >> P F >> H
Accel. factor PE	2		Г <i>>></i> П Оп
Ref. lines PE	24	Rephased images Magnitude images	On
Accel. factor 3D	1	Magnitude images Magnitude sum	Off
Ref. lines 3D	12	Phase images	On
Matrix Coil Mode	Auto (Triple)	Filase illiages	OII
Reference scan mode	Separate	Subtract	Off
Imaga Filtor	O#	Std-Dev-Sag	Off
Image Filter	Off	Std-Dev-Cor	Off
Distortion Corr.	Off	Std-Dev-Tra	Off
Prescan Normalize	Off	Std-Dev-Time	Off
Normalize	Off Off	MIP-Sag	Off
B1 filter	Off Off	MIP-Cor	Off
Raw filter	Off	MIP-Tra	Off
		IVIII IIU	Jii

MIP-Time Save original images	Off On
Sequence	
Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Off
Contrasts	1
Bandwidth	260 Hz/Px
Flow comp.	No
RF pulse type	Fast
Gradient mode	Fast*
RF spoiling	On
MB Number	2
FOV Shift	1

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Properties Elliptical filter Off Prio Recon Off Geometry Before measurement After measurement Multi-slice mode Sequential Load to viewer On Special sat. None Inline movie Off Special sat. None Auto store images On System Off Load to stamp segments Off Body Off Load images to graphic Off HEP On segments Off HEP On Auto open inline display Off HEA On Auto open inline display Off Positioning mode REF Start measurement without further preparation Off Positioning mode REF Wait for user to start Off Table position H Routine Table position 0 mm MSMA S - C - T Slab group 1 Slad state measurements Single Sagittal R >> L Routine Dist. factor 100 % None Coil Combine Mo	
Prio Recon Before measurement After measurement Load to viewer On Inline movie Off Auto store images On Contrast Discorder On Special sat. None Special sat.	
Before measurement	
After measurement	
Load to viewer	
Inline movie	
Auto store images Load to stamp segments Load images to graphic Segments Auto open inline display Start measurement without further preparation Wait for user to start Slab group 1 Slabs 1 Dist. factor 100 % Position Pase enc. dir. A >> P Rotation Phase enc. dir. A >> P Rotation Phase oversampling Slice oversampling Slice oversampling Slice sper slab 12 FoV read 192 mm FoV phase 100.0 % Slices per slab 12 FoV read 192 mm FoV phase 100.0 % Slice thickness 3.00 mm For Slice thickness 1 Concatenations 1 Concatenations 1 Concatenations 1 Contrast Filter None Coll combine Mode Acquisition Physio System Body HEP On HEA On MEA MEF Table position H Table position H Table position H Table position H Table position O mm MoMMA S - C - T Sagittal R >> L Coronal A >> P Transversal Filer None Coil elements Off Confirm freq: adjustment Off Confirm freq: adjustment Off Confirm freq: adjustment Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body coil Off Confirm freq: adjustment Off Adjust with body Off Off Onlientation Off Off	
Load to stamp segments	
Load images to graphic segments	
Segments	
Auto open inline display Start measurement without further preparation Wait for user to start Off Table position H Table position O mm MSMA S - C - T Sagittal R >> L Coronal A >> P Transversal F >> H Coil Combine Mode Sum of Squares AutoAlign	
Start measurement without further preparation	
Wait for user to start Start measurements Off single Table position MSMA 0 mm MSMA	
Wait for user to start Start measurements Off Start measurements Iable position MSMA 0 mm MSMA S - C - T Asagittal R >> L Coronal A >> P A >> P Incompany of Squares A >> P AutoAlign	
Sagittal R > L	
Routine	
Slab group 1	
Slabs	
Dist. factor 100 % AutoAlign	
Position Orientation L29.5 A17.9 F25.0 Orientation Auto Coil Select Default Phase enc. dir. Phase enc. dir. Rotation A >> P Adjust with body coil Off Tune up Rotation 0.00 deg Adjust with body coil Off Off Phase oversampling Slice oversampling Slice oversampling Slice sper slab 12 Assume Silicone Off FoV read 192 mm Adjustment Tolerance Auto FoV phase 100.0 % Adjust volume Slice thickness 3.00 mm Position Isocenter TR 69.15 ms Orientation Transversal TE 5.52 ms Rotation 0.00 deg Averages 1 A >> P 263 mm Filter None F >> H 350 mm Coil elements HEA;HEP Physio Contrast 15 deg Average cycle No Signal ms Averaging mode Short term Acquisition window 700 ms	
Orientation Sagittal Shim mode Tune up Phase enc. dir. A >> P Adjust with body coil Off Phase oversampling 0 % Confirm freq. adjustment Off Slice oversampling 0.0 % Assume Silicone Off Slices per slab 12 Ref. amplitude 1H 0.000 V FoV read 192 mm Adjust with body coil Off FoV read 192 mm Adjust with body coil Off Ref. amplitude 1H 0.000 V Adjust with body coil Off Poverage 100.0 % Adjust wolume Adjust wolume Adjust wolume Position Isocenter File amplitude 1H 0.000 V Adjust volume Position Isocenter Position Isocenter Position Isocenter Position Isocenter Position Isocenter Rotation 0.00 deg R >> L 350 mm Averages 1 A >> P 263 mm Filter No No No Filter <	
Phase enc. dir. A >> P Shim mode Tune up Rotation 0.00 deg Adjust with body coil Off Phase oversampling 0.0 % Confirm freq. adjustment Off Slice oversampling 0.0 % Assume Silicone Off Slice sper slab 12 ? Ref. amplitude 1H 0.000 V Adjust volume Adjust volume Auto FoV phase 100.0 % Adjust volume Position Isocenter TR 69.15 ms Orientation Transversal Rotation 0.00 deg TE 5.52 ms Rotation 0.00 deg R >> L 350 mm Averages 1 A >> P 263 mm F >> H 350 mm Filter None F >> H 350 mm Tst Signal/Mode Average cycle No Signal ms Contrast Tot set-Averaging mode Short term Acquisition window 700 ms	
Rotation 0.00 deg Phase oversampling 0.0 % Slice oversampling 0.0 % Slices per slab 12 FoV read 192 mm FoV phase 100.0 % Slice thickness 3.00 mm TR 69.15 ms TE 5.52 ms Averages 1 Concatenations 1 Filter None Coil elements HEA;HEP Found Table 15 deg Averaging mode Adjust with body coil Confirm freq. adjustment Off Assume Silicone Off ? Ref. amplitude 1H 0.000 V Adjust wolume Position Isocenter Orientation Transversal Rotation 0.00 deg R >> L 350 mm F >> H 350 mm The signal/Mode Pulse/Trigger Average cycle No Signal ms Captured cycle -not set- Acquisition window 700 ms	
Phase oversampling 0 % Confirm freq. adjustment Off Assume Silicone Off Silice oversampling 0.0 % Provided 12 Provided 192 mm Adjustment Tolerance Auto Adjust volume Position Isocenter Orientation Transversal Rotation 0.00 deg R >> L 350 mm Provided Silice thickness 1 Provided Prov	
Slice oversampling 0.0 % Slices per slab 12 FoV read 192 mm FoV phase 100.0 % Slice thickness 3.00 mm TR 69.15 ms TE 5.52 ms Averages 1 Concatenations 1 Filter None Coil elements HEA;HEP Flip angle 15 deg Averaging mode Assume Silicone Off ? Ref. amplitude 1H 0.000 V Adjustment Tolerance Auto Adjust volume Position Isocenter Orientation Transversal Rotation 0.00 deg R >> L 350 mm F >> H 350 mm F >> H 350 mm Physio Tst Signal/Mode Pulse/Trigger Average cycle No Signal ms Captured cycle -not set- Acquisition window 700 ms	
Slices per slab	
FoV read 192 mm Adjustment Tolerance Auto FoV phase 100.0 % Adjust volume Adjust volume Slice thickness 3.00 mm Position Isocenter TR 69.15 ms Orientation Transversal Nectorial Transversal 0.00 deg R >> L 350 mm Averages 1 A >> P 263 mm Filter None F >> H 350 mm Coil elements HEA;HEP Physio Contrast 1st Signal/Mode Pulse/Trigger Average cycle No Signal ms Captured cycle -not set- Averaging mode Short term Acquisition window 700 ms	
FoV phase 100.0 % Adjust volume Slice thickness 3.00 mm Position Isocenter TR 69.15 ms Orientation Transversal TE 5.52 ms Rotation 0.00 deg Averages 1 A >> P 263 mm Concatenations 1 Filter None F >> H 350 mm Filter None Physio Pulse/Trigger Contrast Average cycle No Signal ms Flip angle 15 deg Average cycle No Signal ms Captured cycle -not set- Averaging mode Short term Acquisition window 700 ms	
Slice thickness 3.00 mm Position Isocenter	
TR 69.15 ms Orientation Transversal TE 5.52 ms Rotation 0.00 deg Averages 1 Rotation 0.00 deg R >> L 350 mm 350 mm Concatenations 1 For the property of th	
TE 5.52 ms Rotation 0.00 deg Averages 1 R >> L 350 mm Concatenations 1 A >> P 263 mm Filter None F >> H 350 mm Coil elements HEA;HEP Physio Contrast 1st Signal/Mode Pulse/Trigger Average cycle No Signal ms Captured cycle -not set- Averaging mode Short term Acquisition window 700 ms	
Averages 1 R >> L 350 mm Concatenations 1 A >> P 263 mm Filter None F >> H 350 mm Coil elements HEA;HEP Physio Contrast 1st Signal/Mode Pulse/Trigger Average cycle No Signal ms Captured cycle -not set- Averaging mode Short term Acquisition window 700 ms	
Concatenations 1 A >> P 263 mm Filter None F >> H 350 mm Coil elements HEA;HEP Physio Contrast 1st Signal/Mode Pulse/Trigger Average cycle No Signal ms Captured cycle -not set- Averaging mode Short term Acquisition window 700 ms	
Filter None F >> H 350 mm Coil elements HEA;HEP Physio Contrast 15 deg Average cycle No Signal ms Captured cycle -not set- Averaging mode Short term Acquisition window 700 ms	
Contrast Flip angle Averaging mode HEA;HEP Physio 1st Signal/Mode Average cycle Average cycle Captured cycle Acquisition window Pulse/Trigger Average cycle Captured cycle Acquisition window 700 ms	
Contrast Flip angle Averaging mode Thysic 1st Signal/Mode Average cycle Average cycle Captured cycle Acquisition window 700 ms	
Flip angle 15 deg Average cycle No Signal ms Captured cycle -not set- Averaging mode Short term Acquisition window 700 ms	
Averaging mode Short term Captured cycle -not set- Acquisition window 700 ms	
Averaging mode Short term Acquisition window 700 ms	
Noother addon	
Measurements 1 Trigger delay 0 ms	
Multiple series Each measurement Segments 2	
Phonon 10	
Resolution	
Base resolution 128 Angio	
Phase resolution 100 % Flow mode Single vel.	
Slice resolution 100 % Encodings 3	
Phase partial Fourier Off Velocity enc. 90 cm/s	
Interpolation Off Direction 1 Through plane	
PAT mode GRAPPA Direction 2 A >> P	
Accel factor PE 2 Direction 3 F >> H	
Ref. lines PF 24 Rephased images On	
Accel factor 3D 1 Magnitude images On	
Ref. lines 3D 12 Magnitude sum Off	
Matrix Coil Mode Auto (Triple) Phase images On	
Reference scan mode Separate Subtract Off	
Std-Dev-Sag Off	
Inage Filter On Off	
Distortion Corr. Off Std-Dev-Tra Off	
Prescan Normalize Off Std-Dev-Time Off	
Normalize Off MID Sag Off	
BT IIILET OII MIR-Cor Off	
Raw filter Off MIP-Tra Off	

	MIP-Time Save original images	Off On
	Sequence	
Ī	Introduction	On
	Dimension	3D
	Elliptical scanning	Off
	Asymmetric echo	Off
	Contrasts	1
	Bandwidth	260 Hz/Px
	Flow comp.	No
	RF pulse type	Fast
	Gradient mode	Fast*
	RF spoiling	On
	MB Number	1
	FOV Shift	1