$\label{local_condition} $$\USER\AMRIT\Liyong2\df\fl_fq_mb_gre_3D_CA0_m2f1$$

roperties		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	FIX
further preparation		Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA	S - C - T
	g	Sagittal	R >> L
outine		Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	2	Coil Combine Mode	Sum of Squares
Dist. factor	120 %	AutoAlign	
Position	R1.2 A7.0 F12.7	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	18	Adjustment Tolerance	Auto
FoV read	200 mm	Adjust volume	Auto
FoV phase	100.0 %	Position	Isocenter
Slice thickness	1.60 mm	Orientation	Transversal
TR	27.15 ms	Rotation	0.00 deg
TE	4.54 ms	R >> L	350 mm
Averages	1	A >> P	263 mm
Concatenations	2	F >> H	350 mm
Filter	None	1 >> 11	330 11111
Coil elements	HEA;HEP	Physio	
ontrast		1st Signal/Mode	Pulse/Trigger
Flip angle	15 deg	Average cycle	No Signal ms
		Captured cycle	-not set-
Averaging mode	Short term	Acquisition window	776 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	1
solution		Phases	28
Base resolution	128	 Angio	
Phase resolution	100 %	Flow mode	Single vel.
Slice resolution	100 %	Encodings	3
Phase partial Fourier	Off	Velocity enc.	60 cm/s
Interpolation	Off	Direction 1	Through plane
		Direction 2	A >> P
PAT mode	GRAPPA	Direction 3	F >> H
Accel. factor PE	3	Rephased images	г <i>>></i> п Оп
Ref. lines PE	24	Magnitude images	On
Accel. factor 3D	1	Magnitude images Magnitude sum	Off
Ref. lines 3D	18	Phase images	On
Matrix Coil Mode	Auto (Triple)	i nase inayes	OII
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
DAW IIIIEI	V/II	MIP-Tra	Off

	MIP-Time Save original images	Off On
9	Sequence	
	Introduction	On
	Dimension	3D
	Elliptical scanning	Off
	Asymmetric echo	Off
	Contrasts	1
	Bandwidth	501 Hz/Px
	Flow comp.	No
-	RF pulse type	Fast
	Gradient mode	Fast*
	RF spoiling	On
-	MB Number	2
	FOV Shift	1
	CA(intraSlab)	0

 $\label{local-condition} $$\USER\AMRIT\Liyong2\df\fl_fq_mb_gre_3D_CA0_m1f1_sag$$

USER: fl_fq_mb_gre_3D_CA

Voxel size: 1.6×1.6×1.6 mm Rel. SNR: 1.00

TA: 14:55

PAT: 2

roperties		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	FIX
further preparation		Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA	S - C - T
Otan measurements	Single	Sagittal	R >> L
outine		Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Coil Combine Mode	Sum of Squares
Dist. factor	120 %	AutoAlign	
Position	R32.9 A7.0 F12.7	Auto Coil Select	Default
Orientation	Sagittal		
Phase enc. dir.	A >> P	Shim mode	Tune up
Rotation	0.00 deg	Adjust with body coil	Off
Phase oversampling	0 %	Confirm freq. adjustment	Off
Slice oversampling	0.0 %	Assume Silicone	Off
	18	? Ref. amplitude 1H	0.000 V
Slices per slab		Adjustment Tolerance	Auto
FoV read	200 mm	Adjust volume	
FoV phase	100.0 %	Position	Isocenter
Slice thickness	1.60 mm	Orientation	Transversal
TR	27.15 ms	Rotation	0.00 deg
TE	4.54 ms	R >> L	350 mm
Averages	1	A >> P	263 mm
Concatenations	1	F >> H	350 mm
Filter	None		330 11111
Coil elements	HEA;HEP	Physio	
ontrast		1st Signal/Mode	Pulse/Trigger
Flip angle	15 deg	Average cycle	No Signal ms
arigie	15 deg		-not set-
Averaging mode	Short term	Acquisition window	776 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	1
•		Phases	28
esolution		'	20
Base resolution	128	Angio	
Phase resolution	100 %	Flow mode	Single vel.
Slice resolution	100 %	Encodings	3
Phase partial Fourier	Off	Velocity enc.	60 cm/s
Interpolation	Off	Direction 1	Through plane
PAT mode	GRAPPA	Direction 2	A >> P
		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	18	Phase images	On
Matrix Coil Mode	Auto (Triple)		
Reference scan mode	Separate	Subtract	Off
Image Filter	Off	Std-Dev-Sag	Off
Image Filter		Std-Dev-Cor	Off
Distortion Corr.	Off	Std-Dev-Tra	Off
Prescan Normalize	Off Off	Std-Dev-Time	Off
Normalize	Off	MIP-Sag	Off
B1 filter	Off		
Raw filter	Off	MIP-Cor	Off

MIP-Time	Off
Save original images	On
Sequence	
Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Off
Contrasts	1
Bandwidth	501 Hz/Px
Flow comp.	No
RF pulse type	Fast
Gradient mode	Fast*
RF spoiling	On
MB Number	1
FOV Shift	1
CA(intraSlab)	0

 $\verb|\USER\AMRIT\Liyong2\df\fl_fq_mb_gre_3D_CA0_m2f1p2|$

USER: fl_fq_mb_gre_3D_CA

Voxel size: 1.6×1.6×1.6 mm Rel. SNR: 1.00

TA: 14:55

PAT: 2

roperties		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	FIX
further preparation	On	Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA	S - C - T
Start measurements	Sirigie	Sagittal	R >> L
outine		Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	2	Coil Combine Mode	Sum of Squares
Dist. factor	120 %	AutoAlign	
Position	R1.2 A7.0 F12.7	Auto Coil Select	Default
Orientation	Sagittal	Auto Coli Select	
Phase enc. dir.	A >> P	Shim mode	Tune up
Rotation	0.00 deg	Adjust with body coil	Off
		Confirm freq. adjustment	Off
Phase oversampling	0 %	Assume Silicone	Off
Slice oversampling	0.0 %	? Ref. amplitude 1H	0.000 V
Slices per slab	18	Adjustment Tolerance	Auto
FoV read	200 mm	Adjust volume	Adio
FoV phase	100.0 %	Position	Isocenter
Slice thickness	1.60 mm		
TR	27.15 ms	Orientation	Transversal
TE	4.54 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	Physio	
		1st Signal/Mode	Pulse/Trigger
ontrast		Average cycle	No Signal ms
Flip angle	15 deg	Captured cycle	-not set-
Averaging mode	Short term	Acquisition window	776 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1		0 ms
Multiple series	Each measurement	Trigger delay	
Multiple Series	Lacifileasurement	Segments	1
esolution		Phases	28
Base resolution	128	Angio	
Phase resolution	100 %	Flow mode	Single vel.
Slice resolution	100 %	Encodings	3
Phase partial Fourier	Off	Velocity enc.	60 cm/s
Interpolation	Off	Direction 1	Through plane
		Direction 2	A >> P
PAT mode	GRAPPA	Direction 3	F >> H
			On
Accel. factor PE	2	Rannagan imanag	
Accel. factor PE Ref. lines PE	24	Rephased images	
Accel. factor PE Ref. lines PE Accel. factor 3D	24 1	Magnitude images	On
Accel. factor PE Ref. lines PE	24	Magnitude images Magnitude sum	On Off
Accel. factor PE Ref. lines PE Accel. factor 3D	24 1	Magnitude images	On
Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D	24 1 18 Auto (Triple)	Magnitude images Magnitude sum	On Off
Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D Matrix Coil Mode Reference scan mode	24 1 18 Auto (Triple) Separate	Magnitude images Magnitude sum Phase images Subtract	On Off On Off
Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D Matrix Coil Mode Reference scan mode Image Filter	24 1 18 Auto (Triple) Separate Off	Magnitude images Magnitude sum Phase images Subtract Std-Dev-Sag	On Off On Off Off
Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D Matrix Coil Mode Reference scan mode Image Filter Distortion Corr.	24 1 18 Auto (Triple) Separate Off	Magnitude images Magnitude sum Phase images Subtract Std-Dev-Sag Std-Dev-Cor	On Off On Off Off Off
Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D Matrix Coil Mode Reference scan mode Image Filter	24 1 18 Auto (Triple) Separate Off Off Off	Magnitude images Magnitude sum Phase images Subtract Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra	On Off On Off Off Off Off
Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D Matrix Coil Mode Reference scan mode Image Filter Distortion Corr. Prescan Normalize Normalize	24 1 18 Auto (Triple) Separate Off Off Off Off	Magnitude images Magnitude sum Phase images Subtract Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra Std-Dev-Time	On Off On Off Off Off Off Off Off
Accel. factor PE Ref. lines PE Accel. factor 3D Ref. lines 3D Matrix Coil Mode Reference scan mode Image Filter Distortion Corr. Prescan Normalize	24 1 18 Auto (Triple) Separate Off Off Off	Magnitude images Magnitude sum Phase images Subtract Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra	On Off On Off Off Off Off

	MIP-Time Save original images	Off On
	Sequence	
Ī	Introduction	On
	Dimension	3D
	Elliptical scanning	Off
	Asymmetric echo	Off
	Contrasts	1
	Bandwidth	501 Hz/Px
	Flow comp.	No
	RF pulse type	Fast
	Gradient mode	Fast*
	RF spoiling	On
	NAD Niverkan	
	MB Number	2
	FOV Shift	1
	CA(intraSlab)	0

TA: 14:55 PAT: 2	Voxel size: 1.1×1.1×1.1	mm Rel. SNR: 1.00 USER:	fl_fq_mb_gre_3D_CA
Properties		Elliptical filter	Off
Prio Recon	Off	Geometry	
Before measurement	311	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	FIX
further preparation		Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA	S - C - T
ı	3 -	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1	_	Transversal	F >> H
Slabs	2	Coil Combine Mode	Sum of Squares
Dist. factor	400 %	AutoAlign	
Position	R0.7 A15.2 H34.7	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	220 mm	Adjust volume	Adio
FoV phase	100.0 %	Position	Isocenter
Slice thickness	1.10 mm	Orientation	Transversal
TR	36.05 ms	Rotation	0.00 deg
TE	5.92 ms	R >> L	350 mm
Averages	1	A >> P	263 mm
Concatenations	2	F >> H	350 mm
Filter	None	· ·	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	776 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	<u>1</u> .	Trigger delay	0 ms
Multiple series	Each measurement	Segments	1
Resolution		Phases	21
Base resolution	192	 Angio	
Phase resolution	100 %	Flow mode	Single vel.
Slice resolution	100 %	Encodings	3
Phase partial Fourier	Off	Velocity enc.	60 cm/s
Interpolation	Off	Direction 1	Through plane
		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
1		MIP-Tra	Off

	MIP-Time Save original images	Off On
	Sequence	
Γ	Introduction	On
	Dimension	3D
	Elliptical scanning	Off
	Asymmetric echo	Off
	Contrasts	1
	Bandwidth	299 Hz/Px
	Flow comp.	No
	RF pulse type	Fast
	Gradient mode	Fast*
	RF spoiling	On
	MB Number	2
	FOV Shift	2
	CA(intraSlab)	0

 $\verb|\USER\AMRIT\Liyong2\df\PC_2D_sag| \\$

TA: 0:22 PA	T: Off Voxel size: 1.0×0.8×	40.0 mm Rel. SNR: 1.00	SIEMENS: fl_pc
Droportion		Body	Off
Properties	~"	_ HEP	On
Prio Recon	Off	HEA	On
Before measurement			
After measurement		Positioning mode	REF
Load to viewer	On	Table position	Н
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	Chim mode	Standard
Start measurements	single	Shim mode	Off
Routine		Adjust with body coil	_
		Confirm freq. adjustment	Off
Slice group 1	4	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	
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	Physic	
TR	34.85 ms	Physio	None
TE	7.12 ms	1st Signal/Mode	None
Averages	3	Segments	1
Concatenations	1	Angio	
Filter	Elliptical filter	Flow mode	Free
Coil elements	HEA;HEP	Encodings	2
0		Velocity enc. 1	30 cm/s
Contrast	10.1	Velocity enc. 2	20 cm/s
Flip angle	10 deg	Direction 1	F >> H
Averaging mode	Long term	Direction 2	R >> L
Reconstruction	Magnitude	Rephased images	Off
Measurements	1	Magnitude images	Off
Multiple series	Each measurement	Magnitude sum	On
•		Phase images	On
Resolution		_	
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
DAT mode	None	Std-Dev-Time	Off
PAT mode	None	MIP-Sag	Off
Matrix Coil Mode	At- (CD)		
	Auto (CP)	MIP-Cor	Off
Image Filter			Off Off
Image Filter Distortion Corr.	Off	MIP-Cor	
Distortion Corr.	Off Off	MIP-Cor MIP-Tra MIP-Time	Off
Distortion Corr. Prescan Normalize	Off Off Off	MIP-Cor MIP-Tra MIP-Time Save original images	Off Off
Distortion Corr. Prescan Normalize Normalize	Off Off Off	MIP-Cor MIP-Tra MIP-Time Save original images Sequence	Off Off On
Distortion Corr. Prescan Normalize Normalize B1 filter	Off Off Off Off	MIP-Cor MIP-Tra MIP-Time Save original images Sequence Introduction	Off Off On
Distortion Corr. Prescan Normalize Normalize B1 filter Raw filter	Off Off Off Off Off	MIP-Cor MIP-Tra MIP-Time Save original images Sequence	Off Off On
Distortion Corr. Prescan Normalize Normalize B1 filter Raw filter Elliptical filter	Off Off Off Off Off Off Off Off	MIP-Cor MIP-Tra MIP-Time Save original images Sequence Introduction	Off Off On
Distortion Corr. Prescan Normalize Normalize B1 filter Raw filter	Off Off Off Off Off	MIP-Cor MIP-Tra MIP-Time Save original images Sequence Introduction Dimension	Off Off On On 2D
Distortion Corr. Prescan Normalize Normalize B1 filter Raw filter Elliptical filter Mode	Off Off Off Off Off Off Off Off	MIP-Cor MIP-Tra MIP-Time Save original images Sequence Introduction Dimension Asymmetric echo	Off Off On On 2D
Distortion Corr. Prescan Normalize Normalize B1 filter Raw filter Elliptical filter Mode Geometry	Off Off Off Off Off Off Off Off Off Inplane	MIP-Cor MIP-Tra MIP-Time Save original images Sequence Introduction Dimension Asymmetric echo Contrasts Bandwidth	Off Off On 2D Weak 1
Distortion Corr. Prescan Normalize Normalize B1 filter Raw filter Elliptical filter Mode Geometry Multi-slice mode	Off Off Off Off Off Off Off Off On Inplane	MIP-Cor MIP-Tra MIP-Time Save original images Sequence Introduction Dimension Asymmetric echo Contrasts Bandwidth Flow comp.	Off Off On On 2D Weak 1 212 Hz/Px No
Distortion Corr. Prescan Normalize Normalize B1 filter Raw filter Elliptical filter Mode Geometry	Off Off Off Off Off Off Off Off Off Inplane	MIP-Cor MIP-Tra MIP-Time Save original images Sequence Introduction Dimension Asymmetric echo Contrasts Bandwidth Flow comp. RF pulse type	Off Off On On 2D Weak 1 212 Hz/Px No
Distortion Corr. Prescan Normalize Normalize B1 filter Raw filter Elliptical filter Mode Geometry Multi-slice mode	Off Off Off Off Off Off Off Off On Inplane	MIP-Cor MIP-Tra MIP-Time Save original images Sequence Introduction Dimension Asymmetric echo Contrasts Bandwidth Flow comp.	Off Off On On 2D Weak 1 212 Hz/Px No

\\USER\AMRIT\Liyong2\df\localizer

TA: 0:13 PAT: Off Voxel size: 1.1×1.0×7.0 mm Rel. SNR: 1.00 SIEMENS: gre			
Properties		Phase resolution	90 %
Prio Recon	Off	Phase partial Fourier	Off
Before measurement		Interpolation	On
After measurement		PAT mode	None
Load to viewer	On	Matrix Coil Mode	Auto (CP)
Inline movie	Off	Image Filter	Off
Auto store images	On	Distortion Corr.	Off
Load to stamp segments	Off	Unfiltered images	Off
Load images to graphic	Off	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	single	Mode	Inplane
	3.0	Geometry	
Routine		- Multi-slice mode	Sequential
Slice group 1	1	Series	Interleaved
Slices Dist. factor	1 20 %	Cotumotics and	Ctondord
Position	20 % Isocenter	Saturation mode	Standard
Orientation	Sagittal	Special sat.	None
Phase enc. dir.	A >> P	Tim CT mode	Off
Rotation	0.00 deg	Till CT Mode	Oil
Slice group 2	0.00 409	System	
Slices	1	Body	Off
Dist. factor	20 %	HEP	On
Position	Isocenter	HEA	On
Orientation	Transversal	Positioning mode	REF
Phase enc. dir.	A >> P	Table position	H
Rotation	0.00 deg	Table position	0 mm
Slice group 3	4	MSMA	S - C - T
Slices	1	Sagittal	R >> L
Dist. factor	20 %	Coronal	A >> P
Position Orientation	Isocenter Coronal	Transversal	F >> H
Phase enc. dir.	R >> L	Save uncombined	Off
Rotation	0.00 deg	Coil Combine Mode	Adaptive Combine
Phase oversampling	0 %	AutoAlign	Defects
FoV read	250 mm	Auto Coil Select	Default
FoV phase	100.0 %	Shim mode	Tune up
Slice thickness	7.0 mm	Adjust with body coil	Off
TR	8.6 ms	Confirm freq. adjustment	Off
TE	4.00 ms	Assume Silicone	Off
Averages	2	? Ref. amplitude 1H	0.000 V
Concatenations	3	Adjustment Tolerance	Auto
Filter	Prescan Normalize, Elliptical	Adjust volume Position	Isocontor
Call along site	filter	Orientation	Isocenter Transversal
Coil elements	HEA;HEP	Rotation	0.00 deg
Contrast		R >> L	350 mm
TD	0 ms	A >> P	263 mm
MTC	Off	F >> H	350 mm
Magn. preparation	None	I	
Flip angle	20 deg	Physio	None
Fat suppr.	None	1st Signal/Mode Segments	None 1
Water suppr.	None	Segments	I
Averaging mode	Short term	Dark blood	Off
Reconstruction	Magnitude	Resp. control	Off
Measurements	1	•	
Multiple series	Each measurement	Inline	
Resolution		Subtract	Off
Base resolution	256	Liver registration	Off
1		Std-Dev-Sag	Off

Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

Sequence

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Bandwidth	320 Hz/Px
Flow comp.	No
Allowed delay	0 s
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On

\\USER\AMRIT\Liyong2\df\t1_fl2d_tra
Voxel size: 0.9×0.7×4.0 mm Rel. SNR: 1.00

TA: 1:38

PAT: Off

SIEMENS: gre

.			
Properties		Geometry	
Prio Recon	Off	Multi-slice mode	Interleaved
Before measurement		Series	Interleaved
After measurement	_	Saturation mode	Standard
Load to viewer	On	Special sat.	None
Inline movie	Off		
Auto store images	On	Tim CT mode	
Load to stamp segments	Off	Tim C1 mode	Off
Load images to graphic	Off	System	
segments		Body	Off
Auto open inline display	Off	HEP	On
Start measurement without	On	HEA	On
further preparation			
Wait for user to start	Off	Positioning mode	REF
Start measurements	single	Table position	Н
I	5g.c	Table position	0 mm
Routine		MSMA	S-C-T
Slice group 1		Sagittal	R >> L
Slices	25	Coronal	P >> A
Dist. factor	60 %	Transversal	H >> F
Position	L3.0 A17.6 H4.8	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	R >> L	AutoAlign	
Rotation	90.00 deg	Auto Coil Select	
Phase oversampling	0 %	Auto Coil Select	Default
FoV read	220 mm	Shim mode	Tune up
FoV phase	100.0 %	Adjust with body coil	Off
		Confirm freq. adjustment	Off
Slice thickness	4.0 mm	Assume Silicone	Off
TR	250.0 ms	? Ref. amplitude 1H	0.000 V
TE	2.46 ms	Adjustment Tolerance	Auto
Averages	2	Adjust volume	Auto
Concatenations	1	Position	laccenter
Filter	Prescan Normalize, Elliptical		Isocenter
	filter	Orientation	Transversal
Coil elements	HEA;HEP	Rotation	0.00 deg
Contrast		R >> L	350 mm
MTC	Off	_ A >> P	263 mm
		F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	70 deg	1st Signal/Mode	None
Fat suppr.	None		1
Water suppr.	None	Segments	
Averaging mode	Long term	Dark blood	Off
Reconstruction	Magnitude		
Measurements	Magrillade	Resp. control	Off
	I Fach management	Inline	
Multiple series	Each measurement	Subtract	Off
Resolution			
Base resolution	320	Liver registration	Off Off
Phase resolution	80 %	Std-Dev-Sag	Off
Phase partial Fourier	6/8	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
		MIP-Tra	Off
Image Filter	Off	MIP-Time	Off
Distortion Corr.	Off	Save original images	On
Unfiltered images	Off		
Prescan Normalize	On	Wash - In	Off
Normalize	Off	Wash - Out	Off
B1 filter	Off	TTP	Off
Raw filter	Off	PEI	Off
Elliptical filter	On	MIP - time	Off
Mode	Inplane	Seguence	
1	r	Sequence	

On
2D
Off
Allowed
1
330 Hz/Px
No
60 s
Fast
Fast
Slice-sel.

On

RF spoiling

\\USER\AMRIT\Liyong2\df\fl_fq_mb_gre_3D_seg

TA: 0:40 PAT: Off	Voxel size: 1.2×1.2×5.0 mm		fl_fq_mb_gre_3D_seg
Proportios		HEP	Off
Properties Prio Recon	Off	HEA	Off
Before measurement	Oii	Positioning mode	REF
		Positioning mode	H
After measurement Load to viewer	On	Table position	0 mm
	Off	Table position MSMA	S - C - T
Inline movie	On		8 - C - 1 R -> L
Auto store images	_	Sagittal Coronal	A >> P
Load to stamp segments Load images to graphic	Off Off	Transversal	F >> H
.	Oli	Coil Combine Mode	
segments	Off		Sum of Squares
Auto open inline display Start measurement without	On	AutoAlign Auto Coil Select	Default
	On	Auto Coil Select	Delault
further preparation	Off	Shim mode	Tune up
Wait for user to start		Adjust with body coil	Off
Start measurements	single	Confirm freq. adjustment	Off
Routine		Assume Silicone	Off
Slice group 1		? Ref. amplitude 1H	0.000 V
Slices	1	Adjustment Tolerance	Auto
Dist. factor	20 %	Adjust volume	
Position	Isocenter	Position	Isocenter
Orientation	Transversal	Orientation	Transversal
Phase enc. dir.	A >> P	Rotation	0.00 deg
Rotation	0.00 deg	R >> L	350 mm
Phase oversampling	0 %	A >> P	263 mm
FoV read	300 mm	F >> H	350 mm
FoV phase	100.0 %	1 >>11	330 mm
Slice thickness	5.0 mm	Physio	
TR	150.00 ms	1st Signal/Mode	None
TE	10.00 ms	Segments	1
	10.00 ms	A	
Averages	1	Angio	Oire ada adia
Concatenations Filter	l None	Flow mode	Single dir.
	None	Encodings	1
Coil elements	BC	Velocity enc.	90 cm/s
Contrast		Direction	Through plane
Flip angle	15 deg	Rephased images	On
		Magnitude images	On
Averaging mode	Short term	Magnitude sum	Off
Reconstruction	Magnitude	Phase images	On
Measurements	1 .	Subtract	Off
Multiple series	Each measurement	Std-Dev-Sag	Off
Resolution		Std-Dev-Cor	Off
Base resolution	256	Std-Dev-Tra	Off
Phase resolution	100 %	Std-Dev-Time	Off
Phase partial Fourier	Off	MIP-Sag	Off
Interpolation	Off	MIP-Cor	Off
		MIP-Tra	Off
PAT mode	None	MIP-Time	Off
Matrix Coil Mode	Auto (CP)	Save original images	On
Lean Titan	04	Save original images	Oli
Image Filter	Off	Sequence	
Distortion Corr.	Off	Introduction	On
Prescan Normalize	Off	Dimension	2D
Normalize	Off	Asymmetric echo	Off
B1 filter	Off	Contrasts	1
Raw filter	Off	Bandwidth	260 Hz/Px
	Off	Flow comp.	No
Elliptical filter			
•			
Geometry		RF pulse type	Normal
Geometry Multi-slice mode	Sequential	RF pulse type Gradient mode	Normal Fast
Geometry		RF pulse type	
Geometry Multi-slice mode Series	Sequential	RF pulse type Gradient mode RF spoiling	Fast On
Geometry Multi-slice mode	Sequential Interleaved	RF pulse type Gradient mode	Fast

 $\label{local_local_local_local_local_local} $$\USER\AMRIT\Liyong2\df\fl_fq_mb_gre_3D_seg$$

TA: 1:48 PAT: Off	Voxel size: 3.1×3.1×3.0	mm Rel. SNR: 1.00 USER:	fl_fq_mb_gre_3D_seg
roperties		Special sat.	None
Prio Recon	Off	System	
Before measurement		Body	Off
After measurement		HEP	On
Load to viewer	On	HEA	On
Inline movie	Off		
Auto store images	On	Positioning mode	REF
	Off	Table position	Н
Load to stamp segments		Table position	0 mm
Load images to graphic	Off	MSMA	S - C - T
segments		Sagittal	R >> L
Auto open inline display	Off	Coronal	A >> P
Start measurement without	On		
further preparation		Transversal	F >> H
Wait for user to start	Off	Coil Combine Mode	Sum of Squares
Start measurements	single	AutoAlign	
	Single	Auto Coil Select	Default
Routine		— Shim mode	Tune up
Slab group 1		Adjust with body coil	Off
Slabs	2		
Dist. factor	100 %	Confirm freq. adjustment	Off
Position	L0.0 A8.5 H3.0	Assume Silicone	Off
Orientation	Transversal	? Ref. amplitude 1H	0.000 V
Phase enc. dir.	A >> P	Adjustment Tolerance	Auto
Rotation	0.00 deg	Adjust volume	
		Position	Isocenter
Phase oversampling	0 %	Orientation	Transversal
Slice oversampling	0.0 %	Rotation	0.00 deg
Slices per slab	12	R >> L	350 mm
FoV read	200 mm	A >> P	263 mm
FoV phase	100.0 %		
Slice thickness	3.00 mm	F >> H	350 mm
TR	72.45 ms	Physio	
TE	5.43 ms	1st Signal/Mode	Pulse/Trigger
Averages	1		
		Average cycle	No Signal ms
Concatenations	2	Captured cycle	-not set-
Filter	None	Acquisition window	280 ms
Coil elements	HEA;HEP	Trigger pulse	1
Contrast		Trigger delay	0 ms
Flip angle	15 deg	—— Segments	2
		Phases	3
Averaging mode	Short term	Angio	
Reconstruction	Magnitude	Flow mode	Cinalo vol
Measurements	1		Single vel.
Multiple series	Each measurement	Encodings	3
•		Velocity enc.	90 cm/s
Resolution		Direction 1	Through plane
Base resolution	64	Direction 2	A >> P
Phase resolution	100 %	Direction 3	R >> L
Slice resolution	100 %	Rephased images	On
Phase partial Fourier	Off	Magnitude images	On
Interpolation	Off	Magnitude sum	Off
	∵	Phase images	On
PAT mode	None	i nase images	OII
Matrix Coil Mode	Auto (CP)	Subtract	Off
		Std-Dev-Sag	Off
Image Filter	Off	Std-Dev-Cor	Off
Distortion Corr.	Off	Std-Dev-Col	Off
Prescan Normalize	Off		
Normalize	Off	Std-Dev-Time	Off
B1 filter	Off	MIP-Sag	Off
Raw filter	Off	MIP-Cor	Off
		MIP-Tra	Off
Elliptical filter	Off	MIP-Time	Off
Geometry		Save original images	On
Multi-slice mode	Sequential		
Series	Interleaved	Sequence	
061169	niterieaveu	Introduction	On
		1	

Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Off
Contrasts	1
Bandwidth	260 Hz/Px
Flow comp.	No
RF pulse type	Normal
Gradient mode	Fast*
RF spoiling	On
MB Number	2
FOV Shift	2

\\USER\AMRIT\Liyong2\df\localizer

Properties	TA: 0:13 P	AT: Off Voxel size: 1.1×1.0>	7.0 mm Rel. SNR: 1.00	SIEMENS: gre
Prio Racon Diff Belore measurement After measurement After measurement Ander measurement And	Proportion		Phase resolution	90 %
Reformessurement Audit A		0"	Phase partial Fourier	Off
Alter measurement Load to viewer On Inline movie Off Indine movie Off		Off	Interpolation	On
Load to viewer On			DAT mode	None
Inline movie		On		
Auto store images				Auto (CF)
Distortion Corr.			Image Filter	Off
Load images to graphic segments Auto open inlined siplay Off			Distortion Corr.	Off
Segments			Unfiltered images	Off
Auto open inline display Off Start measurement without further preparation Walt for user to start Start measurements Single Start measurements Start measurement		Oll		
Start measurement without further preparation Wait for user to start Off Elliptical filter Off Contrast		Off		Off
Further preparation Wait for user to start Off Start measurements single Some S				
Wait for user to start Off Start measurements Single Start measurements Single Start measurements Single Start measurement Single Start measurement Single Start measurement Single group 1 Silcos		.		
Start measurements		Off		
Routine			Mode	Inplane
Multi-silce mode Sequential	l	9	Geometry	
Strices				Sequential
Sices				•
Position				
Orientation Sagittal Phase enc. dir. A >> P Tim CT mode Off				
Phase enc. dir. A >> P Tim CT mode Off			Special sat.	None
Rotation Silce group 2 Silces 1				
Sice group 2 System			Tim CT mode	Off
Silces		0.00 deg	System	
Dist. factor		1		Off
Position				
Note				
Phase enc. dir. A >> P SP2 Off Rotation 0.00 deg SP8 Off Slices group 3 Slices 1 SP3 On Dist. factor 20 % SP1 Off Position Isocenter SP7 Off Orientation Coronal SP5 On Phase enc. dir. R >> L SP5 On Rotation 0.00 deg Positioning mode REF Rotation 0.00 deg Table position H Pov reach 250 mm MSMA S - C - T FoV phase 100.0 % Sagittal R > L Slice thickness 7.0 mm Coronal R > L TE 4.00 ms Sagittal R > L Averages 2 Concatenations 3 Filter Prescan Normalize, Elliptical filter Shirm mode Adaptive Combine Coll elements SP3-6 Shirm mode Ture up Auto Coil Select Default				
Rolation				Off
Slice group 3 Slices 1 SP6 On				
Silices		0.00 deg	SP6	On
Dist. factor		1		On
Position			SP1	Off
Orientation Coronal Phase enc. dir. R >> L Rotation SP5 On Phase enc. dir. R >> L Rotation 0.00 deg Positioning mode REF Phase oversampling Phase oversampling FoV read 250 mm MSMA S - C - T FoV phase 100.0 % Sagittal R >> L Coronal R >> P Slice thickness 7.0 mm Coronal A >> P TTR TR 8.6 ms Transversal F >> H F >> H TE 4.00 ms Save uncombined Off Off Averages 2 Coil Combine Mode Adaptive Combine Adjust with body coil Coil Select Default Default Contrast Sp3-6 Shim mode Adjust with body coil Off Off Contrast Shim mode Adjust with body coil Off Off Confirm freq. adjustment Adjust with body coil Off Off Confirm freq. adjustment Adjust wolume Adjust wolume Fat suppr. None Position Isocenter Water suppr. None Rotation Ool Odeg Averaging mode Reconstruction Magnitude Rotation Ool Odeg Reconstruction Measurements Each measurement F > H 350 mm			SP7	Off
Phase enc. dir. R >> L Positioning mode REF Rotation 0.00 deg Table position H Phase oversampling 0 % Table position H FoV phase 100.0 % Salide position H Slice thickness 7.0 mm Sagittal R >> L TR 8.6 ms Transversal R >> H TE 4.00 ms Save uncombined Off Averages 2 Concatenations 3 Filter Prescan Normalize, Elliptical filter Auto Coil Select Default Coll elements SP3-6 Shim mode Tune up Auto Coil Select Default Auto Coil Select Default TD 0 ms Assume Silicone Off Magn. preparation None Adjust with body coil Off Fat suppr. None Adjust with body coil Off Water suppr. None Acjust volume Position Isocenter Averaging mode Short term Rotation 0.00 d			SP5	On
Rotation			Desitioning mode	DEE
Phase oversampling				
FoV read				
FoV phase 100.0 % Slice thickness 7.0 mm				
Slice thickness 7.0 mm Resolution Re				
TR 8.6 ms Transversal F >> H Averages 2 Concatenations 3 Filter Prescan Normalize, Elliptical filter AutoAlign	1			
TE		8.6 ms		
Averages Concatenations Filter Prescan Normalize, Elliptical filter Coil elements Sp3-6 Contrast TD MTC Magn. preparation Flip angle Fat suppr. Water suppr. Water suppr. Water suppr. Averaging mode Reconstruction Measurements Measurements Measurements Diff Resolution Resolution Resolution Resolution Adaptive Combine Adaptive Combine Auto Aldign Auto Coil Select Default Coil Combine Mode AutoAlign Auto Coil Select Default Shim mode Tune up Adjust with body coil Confirm freq. adjustment Off Assume Silicone Adjust volume Position Adjust volume Position Orientation Firansversal Rotation O.00 deg Revaluation Revaluation Firansversal Rotation O.00 deg Revaluation Firansversal Rotation Oil att Signal/Mode Segments I st Signal/Mode Segments				
Concatenations Filter Prescan Normalize, Elliptical filter Coil elements SP3-6 Contrast TD Off MTC Off Magn. preparation Filp angle Fat suppr. Water suppr. None Water suppr. None Averaging mode Reconstruction Magnitude Reconstruction Measurements Multiple series Base resolution Resolution Resolution AutoAlign AutoAlign Auto Coil Select Default Auto Align Auto Coil Select Default Auto Align Auto Coil Select Default Auto Coil Select Default Auto Align Auto Coil Select Default Off Confirm freq. adjustment Off Assume Silicone Off Assume Silicone Adjust volume Position Position Isocenter Orientation Transversal Rotation 0.00 deg R >> L 350 mm F >> H 350 mm Physio Ist Signal/Mode Segments 1	Averages	2		
Filter Prescan Normalize, Elliptical filter Coil elements SP3-6 Contrast TD 0 ms Adjust with body coil Off Confirm freq. adjustment Off Assume Silicone Off Prip angle 20 deg Adjust volume Fat suppr. None Position Position Position Position Position Seconter Orientation Transversal Rotation 0.00 deg Reconstruction Magnitude Reconstruction Magnitude Resolution Resolution Resolution Prescan Normalize, Elliptical Auto Coil Select Default Adjust with body coil Off Confirm freq. adjustment Off Assume Silicone Off Prescan Padjustment Olff Assume Silicone Off Position Isocenter Orientation Transversal Rotation 0.00 deg R >> L 350 mm A >> P 263 mm F >> H 350 mm Physio Ist Signal/Mode None Segments 1				•
Coil elements SP3-6 Shim mode Adjust with body coil Off	Filter	Prescan Normalize, Elliptical		
Contrast TD 0 ms MTC Off Mgn. preparation None Flip angle 20 deg Fat suppr. None Water suppr. None Averaging mode Reconstruction Magnitude Resonstruction Magnitude Measurements 1 Multiple series Resolution Resolution Adjust with body coil Confirm freq. adjustment 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 A >> P 263 mm F >> H 350 mm Physio Resolution Physio 1st Signal/Mode None Segments 1 Signal/Mode None Segments 1				<u>-</u>
Contrast TD 0 ms MTC Off Magn. preparation None Flip angle 20 deg Fat suppr. None Averaging mode Reconstruction Measurements Measurements 1 Multiple series Each measurement Confirm freq. adjustment Assume Silicone Off Assume Silicone Off Assume Silicone Adjustment Position One Position Isocenter Orientation Transversal Rotation 0.00 deg R >> L 350 mm A >> P 263 mm F >> H 350 mm Physio Physio Ist Signal/Mode None Segments 1 Physio Ist Signal/Mode None Segments	Coil elements	SP3-6		•
TD 0 ms MTC Off Magn. preparation None Flip angle 20 deg Fat suppr. None Water suppr. None Averaging mode Short term Reconstruction Magnitude Measurements 1 Multiple series Each measurement Resolution TD 0 ms Assume Silicone Off ? Ref. amplitude 1H 0.000 V Adjust volume Position Isocenter Orientation Transversal Rotation 0.00 deg R >> L 350 mm A >> P 263 mm F >> H 350 mm Physio Physio Physio Ist Signal/Mode None Segments 1	Contrast			_
MTCOffAssume ShictifeOffMagn. preparationNone? Ref. amplitude 1H0.000 VFlip angle20 degAdjustment ToleranceAutoFat suppr.NonePositionIsocenterWater suppr.NoneOrientationTransversalAveraging modeShort termRotation0.00 degReconstructionMagnitudeR >> L350 mmMeasurements1A >> P263 mmMultiple seriesEach measurementF >> H350 mmPhysioBase resolution2561st Signal/Mode SegmentsNone		0 ms		
Magn. preparation Flip angle Fat suppr. Water suppr.None NoneAdjustment Tolerance Adjust volumeAutoAveraging mode Reconstruction Measurements Multiple seriesShort term MagnitudeRotation R >> L A >> P F >> H350 mm 350 mmResolutionPhysioBase resolution2561st Signal/Mode SegmentsNone None				
Flip angle 20 deg Adjust volume Fat suppr. None Position Isocenter Water suppr. None Orientation Transversal Averaging mode Short term Reconstruction Magnitude Resolution Football of the position Isocenter Averaging mode Short term Rotation 0.00 deg Resolution Football or Transversal Rotation 0.00 deg R >> L 350 mm A >> P 263 mm F >> H 350 mm Physio Base resolution Physio 1st Signal/Mode Segments None Segments 1				
Fat suppr. Water suppr. Averaging mode Reconstruction Magnitude Measurements Multiple series Resolution Resolution Resolution Base resolution None Position Position Rotation None Rotation Rotat				Auto
Water suppr. None Orientation Transversal Averaging mode Short term Rotation 0.00 deg Reconstruction Magnitude R >> L 350 mm Measurements 1 A >> P 263 mm Multiple series Each measurement F >> H 350 mm Resolution Physio Base resolution 256 1st Signal/Mode Segments None Segments	. •	•		laggenter
Averaging mode Short term Rotation 0.00 deg Reconstruction Magnitude R >> L 350 mm Measurements 1 A >> P 263 mm Multiple series Each measurement F >> H 350 mm Resolution Physio Base resolution 256 1st Signal/Mode Segments None Segments				
Reconstruction Magnitude R >> L 350 mm Measurements 1 A >> P 263 mm Multiple series Each measurement F >> H 350 mm Resolution Physio Physio Base resolution 256 1st Signal/Mode Segments None Segments				
Measurements Multiple series Resolution Base resolution A >> P 263 mm F >> H 350 mm Physio 1 st Signal/Mode Segments 1 segments 1 To Segm				•
Multiple series Each measurement F >> H 350 mm Resolution Physio Base resolution 256 1st Signal/Mode Segments 1		Magnitude		
Resolution Base resolution 256 Physio 1st Signal/Mode None Segments 1		Tools was		
Base resolution 256 1st Signal/Mode None Segments 1	Multiple series	Each measurement	1 /2 11	JJU IIIIII
Base resolution 256 1st Signal/Mode None Segments 1	Resolution			
Segments 1		256		None
	ı		•	1

1	
Dark blood	Off
Resp. control	Off
Inline	
Subtract	Off
Liver registration	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Sequence	
Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Bandwidth	320 Hz/Px
Flow comp.	No
Allowed delay	0 s
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On

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Voxel size: 1.6×1.6×5.0 mm Rel. SNR: 1.00

TA: 1:20:25

PAT: 2

USER: ep2d_venc_ms_sbmb_SAT

			-
Properties		Sat. region 1	
Prio Recon	Off	Thickness	50 mm
Before measurement		Position	R6.7 A76.8 F20.3
After measurement		Orientation	C > T3.6
Load to viewer	On	Sat. region 2	
Inline movie	Off	Thickness	50 mm
Auto store images	On	Position	L0.0 P79.9 H1.6
Load to stamp segments	Off	Orientation	C > T-1.2
Load images to graphic	Off	Special sat.	None
segments		Custom	
Auto open inline display	Off	System	0#
Start measurement without	On	Body	Off
further preparation		HEP	Off
Wait for user to start	Off	HEA	Off
Start measurements	single	SP4	On
Pouting		SP2	On Off
Routine		SP8	Off
Slice group 1	2	SP6	Off
Slices	2	SP3	On O"
Dist. factor	1500 %	SP1	Off
Position	R6.7 P0.9 F43.3	SP7	Off
Orientation	T > C-0.6	SP5	Off
Phase enc. dir.	A >> P	Positioning mode	FIX
Rotation	0.00 deg	Table position	Н
Phase oversampling	0 %	Table position	0 mm
FoV read	200 mm	MSMA	S - C - T
FoV phase	100.0 %	Sagittal	R >> L
Slice thickness	5.0 mm	Coronal	A >> P
TR	5920 ms	Transversal	F >> H
TE	38.0 ms	Coil Combine Mode	Sum of Squares
Averages	1	AutoAlign	
Concatenations	1	Auto Coil Select	Default
Filter	None	Auto Coil Select	Delault
Coil elements	SP2-4	Shim mode	Standard
Contrast		Adjust with body coil	Off
MTC	Off	Confirm freq. adjustment	Off
Flip angle	25 deg	Assume Silicone	Off
	Fat sat.	? Ref. amplitude 1H	0.000 V
Fat suppr.	rai sai. 	Adjustment Tolerance	Auto
Averaging mode	Long term	Adjust volume	
Reconstruction	Magnitude	Position	R6.7 P0.9 F43.3
Measurements	820	Orientation	T > C-0.6
Delay in TR	0 ms	Rotation	0.00 deg
Multiple series	Off	R >> L	200 mm
•		A >> P	200 mm
Resolution	420	F >> H	85 mm
Base resolution	128	Dhuaia	
Phase resolution	100 %	Physio	
Phase partial Fourier	6/8	1st Signal/Mode	None
Interpolation	Off	Angio	
PAT mode	GRAPPA	Flow mode	Single dir.
Accel. factor PE	2	Encodings	1
Ref. lines PE	24	Velocity enc.	16 cm/s
Matrix Coil Mode	Auto (Triple)	Direction	Through plane
Reference scan mode	Separate	Magnitude sum	Off
			On .
Distortion Corr.	Off	Sequence	
Prescan Normalize	Off	Introduction	Off
Raw filter	Off	Bandwidth	1628 Hz/Px
Elliptical filter	Off	Free echo spacing	Off
Hamming	Off	Echo spacing	0.94 ms
			400
Geometry	Lata da accad	EPI factor	128
Multi-slice mode	Interleaved	RF pulse type	Normal
Series	Ascending	Gradient mode	Fast
		10/⊥	

l	RF spoiling	On
	RF90 duration MB Number	5120 2
	DummyScan Number	5
	FOV Shift Number Shift K0 Center	3
	Every Other Slice	1
	SER Number	1
	Venc Repetition Spoil factor	800 5
	Skew Direction	1
	DualBand Sat FOV Dir	0
	Venc Type(0off,1+-,20+,3on,4 00++)	1

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		Body	Off
Properties		—— HEP	Off
Prio Recon	Off	HEA	Off
Before measurement		SP4	On
After measurement		SP2	On
Load to viewer	On	SP8	Off
Inline movie	Off	SP6	Off
Auto store images	On	SP3	On
Load to stamp segments	Off	SP1	Off
Load images to graphic	Off	SP7	Off
segments		SP5	Off
Auto open inline display	Off		OII
Start measurement without	On	Positioning mode	FIX
further preparation		Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA	S - C - T
Routine		Sagittal	R >> L
		Coronal	A >> P
Slice group 1 Slices	1	Transversal	F >> H
Dist. factor	1 50 %	Save uncombined	Off
Position	L0.0 P10.0 H0.7	Coil Combine Mode	Sum of Squares
Orientation	T > C0.2	AutoAlign	
Phase enc. dir.	1 > C0.2 A >> P	Auto Coil Select	Default
Rotation		Shim mode	Standard
	0.00 deg 0 %		Standard Off
Phase oversampling FoV read	180 mm	Adjust with body coil	Off
		Confirm freq. adjustment Assume Silicone	Off
FoV phase Slice thickness	100.0 % 4.0 mm		
TR	4.0 mm	? Ref. amplitude 1H	0.000 V
TE	18 ms	Adjustment Tolerance	Auto
	10 1118	Adjust volume Position	LO O B10 O H0 7
Averages	1	Orientation	L0.0 P10.0 H0.7 T > C0.2
Concatenations Filter	l None		0.00 deg
	None CD2 4	Rotation	•
Coil elements	SP2-4	R >> L A >> P	180 mm
Contrast		—— A >> P —— F >> H	180 mm
MTC	Off	—— F >> H	4 mm
Flip angle	15 deg	Physio	
Fat suppr.	None	1st Signal/Mode	None
		Segments	4
Averaging mode	Long term	Dana andrai	O#
Reconstruction	Magnitude	Resp. control	Off
Measurements	512	Sequence	
Pause after meas.	0.0 s	Introduction	Off
Multiple series	Off	Dimension	2D
Resolution		Bandwidth	1502 Hz/Px
Base resolution	128	Free echo spacing	Off
Phase resolution	100 %	Echo spacing	0.87 ms
Phase partial Fourier	Off		
Interpolation	Off	EPI factor	33
·			Normal
Matrix Coil Mode	Auto (CP)	Gradient mode	Fast
Distortion Corr.	Off	RF spoiling	On
Prescan Normalize	Off	Flow Compensation	Off
Raw filter	Off	Centric Reorder	On
Elliptical filter	Off	Pat Ref Scan	On
Hamming	Off	VENC value	600
-	Jii	Undersampled	On
Geometry	<u></u>		On the second
Multi-slice mode	Sequential		
Series	Ascending		
Special sat.	None		
-1			

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USER: ep2d_venc_ms_sbmb_SAT

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

PAT: 2

TA: 1:20:54

Properties		Sat. region 1	
Prio Recon	Off	Thickness	50 mm
Before measurement		Position	L2.2 A89.3 H62.0
After measurement		Orientation	C > T-3.7
Load to viewer	On	Sat. region 2	
Inline movie	Off	Thickness	50 mm
Auto store images	On	Position	L2.2 P66.0 H72.1
Load to stamp segments	Off	Orientation	C > T-3.7
Load images to graphic	Off	Special sat.	None
segments		System	
Auto open inline display	Off		Off
Start measurement without	On	Body HEP	On
further preparation		HEA	On
Wait for user to start	Off	SP4	Off
Start measurements	single	SP2	Off
Routine		SP8	Off
Slice group 1		SP6	Off
Slices	3	SP3	Off
Dist. factor	660 %	SP1	Off
Position	L2.2 A10.7 H67.1	SP7	Off
Orientation	T > C3.7	SP5	Off
Phase enc. dir.	A >> P		
Rotation	0.00 deg	Positioning mode	REF
Phase oversampling	0 %	Table position	H
FoV read	192 mm	Table position	0 mm
FoV phase	100.0 %	MSMA Societal	S-C-T
Slice thickness	5.0 mm	Sagittal	R >> L A >> P
TR	5920 ms	Coronal	
TE	38.0 ms	Transversal Coil Combine Mode	F >> H
Averages	1	AutoAlign	Sum of Squares
Concatenations	1	Auto Coil Select	Default
Filter	None	Auto Coil Select	Delault
Coil elements	HEA;HEP	Shim mode	Standard
Contrast		Adjust with body coil	Off
MTC	Off	Confirm freq. adjustment	Off
Flip angle	25 deg	Assume Silicone	Off
Fat suppr.	Fat sat.	? Ref. amplitude 1H	0.000 V
		Adjustment Tolerance	Auto
Averaging mode	Long term	Adjust volume	
Reconstruction	Magnitude	Position	L2.2 A10.7 H67.1
Measurements	820	Orientation	T > C3.7
Delay in TR	0 ms	Rotation	0.00 deg
Multiple series	Off	R >> L	192 mm
Resolution		A >> P	192 mm
Base resolution	128	F >> H	81 mm
Phase resolution	100 %	Physio	
Phase partial Fourier	6/8	1st Signal/Mode	None
Interpolation	Off		
		Angio	Cinalo die
PAT mode	GRAPPA	Flow mode	Single dir.
Accel. factor PE Ref. lines PE	2 24	Encodings	1 10 cm/s
		Velocity enc. Direction	
Matrix Coil Mode	Auto (Triple)		Through plane Off
Reference scan mode	Separate	Magnitude sum	Oii
Distortion Corr.	Off	Sequence	
Prescan Normalize	Off	Introduction	Off
Raw filter	Off	Bandwidth	1776 Hz/Px
Elliptical filter	Off	Free echo spacing	Off
Hamming	Off	Echo spacing	0.94 ms
Geometry		EPI factor	128
Multi-slice mode	Interleaved	RF pulse type	Normal
Series	Ascending	Gradient mode	Fast
001100	,	- Cradiont mode	. 401

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

 $\verb|\USER\AMRIT\Liyong2\df\ep2d_venc_ms_sbmb_SAT_flashrefNew| \\$

		Body	On
roperties		— HEP	Off
Prio Recon	Off	HEA	Off
Before measurement		SP4	Off
After measurement		SP2	Off
Load to viewer	On	SP8	Off
Inline movie	Off	SP6	Off
Auto store images	On	SP3	Off
Load to stamp segments	Off	SP1	Off
Load images to graphic	Off	SP7	Off
segments		SP5	Off
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
Routine		Sagittal	R >> L
Slice group 1		— Coronal	A >> P
Slices	1	Transversal	F >> H
Dist. factor	200 %	Coil Combine Mode	Sum of Squares
Position	Isocenter	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 deg	Adjust with body coil	Off
Phase oversampling	0 %	Confirm freq. adjustment	Off
FoV read	500 mm	Assume Silicone	Off
FoV phase	100.0 %	? Ref. amplitude 1H	0.000 V
Slice thickness	5.0 mm	Adjustment Tolerance	Auto
TR	62 ms	Adjust volume	, tato
TE	1.0 ms	Position	Isocenter
Averages	1	Orientation	Transversal
Concatenations	1	Rotation	0.00 deg
Filter	None	R >> L	500 mm
Coil elements	BC	A >> P	500 mm
Con ciements	20	F >> H	5 mm
Contrast		I	3 mm
MTC	Off	Physio	
Flip angle	90 deg	1st Signal/Mode	None
Fat suppr.	Fat sat.	Angio	
Averaging mode	Long term	Flow mode	Single dir.
Reconstruction	Magnitude	Encodings	1
Measurements	20	Velocity enc.	90 cm/s
Delay in TR	0 ms	Direction	Through plane
Multiple series	Off	Magnitude sum	Off
•	On .		Oil
Resolution		Sequence	
Base resolution	128	Introduction	Off
Phase resolution	50 %	Bandwidth	752 Hz/Px
Phase partial Fourier	5/8	Free echo spacing	Off
Interpolation	Off	Echo spacing	1.4 ms
PAT mode	None	EPI factor	64
Matrix Coil Mode	Auto (CP)	RF pulse type	Normal
······································	Auto (Ot)	Gradient mode	Fast
Distortion Corr.	Off		
Prescan Normalize	Off	RF spoiling	On
Raw filter	Off	RF90 duration	5120
Elliptical filter	Off	MB Number	1
Hamming	Off	DummyScan Number	1
-		FOV Shift Number	1
Geometry		Shift K0 Center	1
Multi-slice mode	Interleaved	Every Other Slice	1
Series	Ascending	SER Number	1
Special sat.	None	Venc Repetition	1
b		Spoil factor	5

Skew Direction	0
DualBand Sat	0
FOV Dir	0
Venc Type(0off,1+-,20+,3on)	0

 $\verb|\USER\AMRIT\Liyong2\df\ep2d_venc_ms_sbmb_SAT_flashref|$

		Body	On
Properties		— HEP	Off
Prio Recon	Off	HEA	Off
Before measurement		SP4	Off
After measurement		SP2	Off
Load to viewer	On	SP8	Off
Inline movie	Off	SP6	Off
Auto store images	On	SP3	Off
Load to stamp segments	Off	SP1	Off
Load images to graphic	Off	SP7	Off
segments	0.44	SP5	Off
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
outine		Sagittal	R >> L
Slice group 1		Coronal	A >> P
Slices	1	Transversal	F >> H
Dist. factor	200 %	Coil Combine Mode	Sum of Squares
Position	Isocenter	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 deg	Adjust with body coil	Off
Phase oversampling	0.00 deg 0 %	Confirm freq. adjustment	Off
FoV read	500 mm	Assume Silicone	Off
FoV phase	100.0 %	? Ref. amplitude 1H	0.000 V
Slice thickness	5.0 mm	Adjustment Tolerance	Auto
	62 ms		Auto
TR TE		Adjust volume Position	laccenter
	1.0 ms	Orientation	Isocenter Transversal
Averages	1	Rotation	
Concatenations Filter	l None		0.00 deg
	None	R >> L	500 mm
Coil elements	BC	A >> P	500 mm
Contrast		F >> H	5 mm
MTC	Off	Physio	
Flip angle	90 deg	1st Signal/Mode	None
Fat suppr.	Fat sat.		
		Angio	Oire ed e adire
Averaging mode	Long term	Flow mode	Single dir.
Reconstruction	Magnitude	Encodings	1
Measurements	20	Velocity enc.	90 cm/s
Delay in TR	0 ms	Direction	Through plane
Multiple series	Off	Magnitude sum	Off
Resolution		Sequence	
Base resolution	128	Introduction	Off
Phase resolution	50 %	Bandwidth	752 Hz/Px
Phase partial Fourier	5/8	Free echo spacing	Off
Interpolation	Off	Echo spacing	1.4 ms
		-	
PAT mode	None	EPI factor	64
Matrix Coil Mode	Auto (CP)	RF pulse type	Normal
Distortion Corr.	Off	Gradient mode	Fast
Prescan Normalize	Off	RF spoiling	On
Raw filter	Off	RF90 duration	5120
Elliptical filter	Off	MB Number	1
Hamming	Off	DummyScan Number	1
Hariffillig	Oil	FOV Shift Number	1
Geometry		— Shift K0 Center	1
Multi-slice mode	Interleaved	Every Other Slice	1
Series	Ascending	SER Number	1
Special sat.	None	Venc Repetition	1 1
	NIODO	I VEIIC REDEUUON	i

Skew Direction	0
DualBand Sat	0
FOV Dir	0
Venc Type(0off,1+-,20+,3on)	0

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TA: 4:30 PAT: 2	Voxel size: 1.6×1.6×1.6 mm	Rel. SNR: 1.00 USER: f	fl_fq_mb_gre_3D_seg
Proportion		Elliptical filter	Off
Prior Page	0#	Goometry	
Prio Recon	Off	Geometry	Commental
Before measurement		Multi-slice mode	Sequential
After measurement	On	Series	Ascending
Load to viewer	On Off	Special sat.	None
Inline movie	_	System	
Auto store images	On Off	System	0"
Load to stamp segments	Off	Body	Off
Load images to graphic	Oii	HEP	On
segments	Off	HEA	On O"
Auto open inline display	Off	SP4	Off
Start measurement without	On	SP2	Off
further preparation	0"	SP8	Off
Wait for user to start	Off	SP6	Off
Start measurements	single	SP3	Off
Routine		SP1	Off
Slab group 1		SP7	Off
Slabs	2	SP5	Off
Dist. factor	100 %	Positioning mode	REF
Position	L0.0 A16.3 H33.9	Table position	H
Orientation	Transversal	Table position	
Phase enc. dir.	A >> P		0 mm
Rotation	0.00 deg	MSMA	S-C-T
	0.00 deg 0 %	Sagittal	R >> L
Phase oversampling	0.0 %	Coronal	A >> P
Slice oversampling		Transversal	F >> H
Slices per slab	12	Coil Combine Mode	Sum of Squares
FoV read	200 mm	AutoAlign	
FoV phase	100.0 %	Auto Coil Select	Default
Slice thickness	1.60 mm	Shim mode	Tune up
TR	69.25 ms	Adjust with body coil	Off
TE	5.52 ms	Confirm freq. adjustment	Off
Averages	1	Assume Silicone	Off
Concatenations	2	? Ref. amplitude 1H	0.000 V
Filter	None	Adjustment Tolerance	Auto
Coil elements	HEA;HEP	Adjust volume	Auto
Contrast		Position	Isocenter
Flip angle	15 deg	Orientation	Transversal
		Rotation	0.00 deg
Averaging mode	Short term	R >> L	350 mm
Reconstruction	Magnitude	A >> P	263 mm
Measurements	1	F >> H	350 mm
Multiple series	Each measurement	Г >> П	330 11111
Resolution		Physio	
Base resolution	128	1st Signal/Mode	Pulse/Trigger
Phase resolution	100 %	Average cycle	No Signal ms
Slice resolution	100 %	Captured cycle	-not set-
Phase partial Fourier	Off	Acquisition window	700 ms
		Trigger pulse	1
Interpolation	Off	Trigger delay	0 ms
PAT mode	GRAPPA	Segments	2
Accel. factor PE	2	Phases	10
Ref. lines PE	24	I	
Accel. factor 3D	1	Angio	
Ref. lines 3D	12	Flow mode	Single vel.
Matrix Coil Mode	Auto (Triple)	Encodings	3
		Velocity enc.	90 cm/s
		Direction 1	Through plane
Reference scan mode	Separate	Direction	p.a
	Off	Direction 2	A >> P
Reference scan mode			.
Reference scan mode Image Filter	Off	Direction 2 Direction 3	A >> P
Reference scan mode Image Filter Distortion Corr.	Off Off Off	Direction 2 Direction 3 Rephased images	A >> P R >> L
Reference scan mode Image Filter Distortion Corr. Prescan Normalize	Off Off	Direction 2 Direction 3	A >> P R >> L On

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	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

\\USER\AMRIT\Liyong2\df\ep2d_venc_ms_m3f3_SATNew

TA: 11:50 PAT: 2 Voxel size: 1.6x1.6x5.0 mm Rel. SNR: 1.00 USER: ep2d_venc_ms_sbmb_SATNew

Properties		Special sat.	None
Prio Recon	Off	System	
Before measurement		Body	Off
After measurement		HEP	On
Load to viewer	On	HEA	On
Inline movie	Off		
Auto store images	On	Positioning mode	REF
Load to stamp segments	Off	Table position	Н
Load images to graphic	Off	Table position	0 mm
segments	0"	MSMA	S - C - T
Auto open inline display	Off	Sagittal	R >> L
Start measurement without	On	Coronal	A >> P
further preparation	0"	Transversal	F >> H
Wait for user to start	Off	Coil Combine Mode	Sum of Squares
Start measurements	single	AutoAlign	
Routine		Auto Coil Select	Default
Slice group 1		Shim mode	Standard
Slices	3	Adjust with body coil	Off
Dist. factor	700 %	Confirm freq. adjustment	Off
Position	Isocenter	Assume Silicone	Off
Orientation	Transversal	? Ref. amplitude 1H	0.000 V
Phase enc. dir.	A >> P	Adjustment Tolerance	Auto
Rotation	0.00 deg	Adjust volume	
Phase oversampling	0 %	Position	Isocenter
FoV read	200 mm	Orientation	Transversal
FoV phase	100.0 %	Rotation	0.00 deg
Slice thickness	5.0 mm	R >> L	200 mm
TR	5920 ms	A >> P	200 mm
TE	38.0 ms	F >> H	85 mm
Averages	1	Physio	
Concatenations	1	1st Signal/Mode	None
Filter	None		None
Coil elements	HEA;HEP	Angio	
Contrast		Flow mode	Single dir.
MTC	Off	Encodings	1
Flip angle	90 deg	Velocity enc.	5 cm/s
Fat suppr.	Fat sat.	Direction	Through plane
		Magnitude sum	Off
Averaging mode	Long term	Sequence	
Reconstruction	Magnitude	Introduction	Off
Measurements	120	Bandwidth	1776 Hz/Px
Delay in TR	0 ms	Free echo spacing	Off
Multiple series	Off	Echo spacing	0.92 ms
Resolution		EPI factor	
Base resolution	128		128
Phase resolution	100 %	RF pulse type Gradient mode	Normal
Phase partial Fourier	6/8		Fast
Interpolation	Off	RF spoiling	On
PAT mode	GRAPPA	RF90 duration	5120
Accel. factor PE	2	MB Number	3
Ref. lines PE	24	DummyScan Number	5
Matrix Coil Mode	Auto (Triple)	FOV Shift Number	3
Reference scan mode	Separate	Shift K0 Center	1
		Every Other Slice	1
Distortion Corr.	Off	SER Number	1
Prescan Normalize	Off	Venc Repetition	100
Raw filter	Off	Spoil factor	5
Elliptical filter	Off	Skew Direction	1
Hamming	Off	DualBand Sat	0
Geometry		FOV Dir	0
Multi-slice mode	Interleaved	Venc Type(0off,1+-,20+,3on,4	1
Series	Ascending	00++)	
I	3	30/+	

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TA: 5:23 PAT: 2	Voxel size: 1.6×1.6×1.6 mm	Rel. SNR: 1.00 USER: f	I_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	H
Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA	S-C-T
Routine		Sagittal	R >> L A >> P
Slab group 1		Coronal	
Slab group 1 Slabs	2	Transversal	F >> H
Dist. factor	100 %	Coil Combine Mode	Sum of Squares
Position	L2.4 A20.6 H35.1	AutoAlign Auto Coil Select	 Default
Orientation	Transversal	Auto Coil Select	Delault
Phase enc. dir.	A >> P	Shim mode	Tune up
Rotation	0.00 deg	Adjust with body coil	Off
Phase oversampling	0.00 deg 0 %	Confirm freq. adjustment	Off
Slice oversampling	0.0 %	Assume Silicone	Off
Slices per slab	12	? Ref. amplitude 1H	0.000 V
FoV read	200 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	
Slice thickness	1.60 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	Physio	
_	,	1st Signal/Mode	Pulse/Trigger
Contrast	45 de s	Average cycle	No Signal ms
Flip angle	15 deg	Captured cycle	-not set-
Averaging mode	Short term	Acquisition window	840 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	2
Resolution		Phases	12
	120	Annia	
Base resolution Phase resolution	128 100 %	Angio	Oin ale vel
Slice resolution	100 %	Flow mode	Single vel.
Phase partial Fourier	Off	Encodings	3
Interpolation	Off	Velocity enc.	90 cm/s
		Direction 1	Through plane
PAT mode	GRAPPA	Direction 2	A >> P
Accel. factor PE	2	Direction 3	R >> L On
Ref. lines PE	24	Rephased images	On
Accel. factor 3D	1	Magnitude images Magnitude sum	Off
Ref. lines 3D	12	Phase images	On
Matrix Coil Mode	Auto (Triple)	· ····································	OII
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 Intel	On .	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
	g	
	MB Number	2
	FOV Shift	2

\\USER\AMRIT\Liyong2\df\fl_fq_mb_gre_3D_seg_m2f2_bottom

USER: fl_fq_mb_gre_3D_seg

Voxel size: 1.6×1.6×1.6 mm Rel. SNR: 1.00

PAT: 2

TA: 5:23

TA. 5.25 PAT. 2	VOXELSIZE. 1.0X1.0X1.0 IIIII	Rei. SINK. 1.00 USEK. I	i_iq_iib_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	Positioning mode	REF
Start measurement without	On	Table position	H
further preparation Wait for user to start	Off	Table position	0 mm
Start measurements	single	MSMA .	S - C - T
ļ	Sirigio	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs Dist. factor	2	Coil Combine Mode	Sum of Squares
Position	100 % L2.4 A20.6 H15.9	AutoAlign	D-fdt
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Shim mode	Tune up
Rotation	0.00 deg	Adjust with body coil	Off
Phase oversampling	0 %	Confirm freq. adjustment	Off
Slice oversampling	0.0 %	Assume Silicone	Off
Slices per slab	12	? Ref. amplitude 1H	0.000 V
FoV read	200 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	laasantar
Slice thickness	1.60 mm	Position Orientation	Isocenter Transversal
TR	69.25 ms	Rotation	0.00 deg
TE	5.52 ms	R >> L	350 mm
Averages	1	A >> P	263 mm
Concatenations Filter	2 None	F >> H	350 mm
Coil elements	HEA;HEP	Dhusia	
I	11273,1121	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	840 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	2
Resolution		Phases	12
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 O"
Ref. lines 3D	12	Magnitude sum	Off
Matrix Coil Mode	Auto (Triple)	Phase images	On
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 MIP-Tra	Off Off
•		MIP-17a 33/+	Oil

	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	2
	FOV Shift	2

TA: 5:24 PAT: 2	Voxel size: 1.6×1.6×1.6 mm	Rel. SNR: 1.00 USER: fl_fq_mb_gre_3D_seg	
Properties		Elliptical filter	Off
Prio Recon	Off	Geometry	
Before measurement	Oll	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		Off
Load images to graphic	Off	Body HEP	On
segments	Oll	HEA	On
Auto open inline display	Off	ПСА	OII
Start measurement without	On	Positioning mode	REF
further preparation	Oll	Table position	Н
Wait for user to start	Off	Table position	0 mm
Start measurements	_	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	Off
Slice oversampling	0.0 %	Assume Silicone	Off
Slices per slab	12	? Ref. amplitude 1H	0.000 V
FoV read	200 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	
Slice thickness	1.60 mm	Position	Isocenter
TR	69.25 ms	Orientation	Transversal
TE		Rotation	0.00 deg
	5.52 ms	R >> L	350 mm
Averages	1	A >> P	263 mm
Concatenations	1	F >> H	350 mm
Filter	None	l	
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	840 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	2
Resolution		Phases	12
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
		Direction 2	A >> P
PAT mode	GRAPPA	Direction 3	R >> L
Accel. factor PE	2		
Ref. lines PE	24	Rephased images	On On
Accel. factor 3D	1	Magnitude images	
	12	Magnitude sum	Off
Ref. lines 3D		Phase images	On
Ref. lines 3D Matrix Coil Mode	Auto (Triple)		
	Auto (Triple) Separate	Subtract	Off
Matrix Coil Mode Reference scan mode	Separate		Off Off
Matrix Coil Mode Reference scan mode Image Filter	Separate Off	Subtract Std-Dev-Sag Std-Dev-Cor	
Matrix Coil Mode Reference scan mode Image Filter Distortion Corr.	Separate Off Off	Std-Dev-Sag	Off Off
Matrix Coil Mode Reference scan mode Image Filter Distortion Corr. Prescan Normalize	Separate Off Off Off	Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra	Off Off Off
Matrix Coil Mode Reference scan mode Image Filter Distortion Corr. Prescan Normalize Normalize	Separate Off Off Off Off Off	Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra Std-Dev-Time	Off Off Off Off
Matrix Coil Mode Reference scan mode Image Filter Distortion Corr. Prescan Normalize	Separate Off Off Off	Std-Dev-Sag Std-Dev-Cor Std-Dev-Tra	Off Off 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	1
	FOV Shift	1