\\USER\Feinberglab\Suhyung\SMVMS\gre_PC_SH_goldstandard

Rel. SNR: 1.00

Voxel size: 1.1×1.1×5.0 mm

PAT: Off

TA: 8:40

USER: gre_PC_SH

		Base resolution	192
Properties		——— Phase resolution	100 %
Prio Recon	Off	Phase partial Fourier	Off
Before measurement		Interpolation	Off
After measurement			<u> </u>
Load to viewer	On	PAT mode	None
Inline movie	Off	Imaga Filtar	O#
Auto store images	On	Image Filter	Off
Load to stamp segments	Off	Distortion Corr.	Off
Load images to graphic	Off	Prescan Normalize	Off
segments		Normalize	Off
Auto open inline display	Off	B1 filter	Off
Start measurement without	On	Raw filter	Off
further preparation	- •	Elliptical filter	Off
Wait for user to start	Off	Geometry	
Start measurements	single	Multi-slice mode	Sequential
	2.~	Series	Ascending
Routine			
Slice group 1		Saturation mode	Standard
Slices	1	Special sat.	None
Dist. factor	800 %		
Position	Isocenter	Table position	Н
Orientation	Transversal	Table position	0 mm
Phase enc. dir.	A >> P	Inline Composing	Off
Rotation	0.00 deg		→
Slice group 2	•	System	
Slices	1	T1	On
Dist. factor	800 %	M2	On
Position	L0.0 P0.0 H45.0	B4	On
Orientation	Transversal	M3	On
Phase enc. dir.	A >> P	V32	Off
Rotation	0.00 deg	D- '''	DEE
Slice group 3	5.50 dog	Positioning mode	REF
Slices	1	MSMA	S - C - T
Dist. factor	800 %	Sagittal	R >> L
Position	L0.0 P0.0 H90.0	Coronal	A >> P
Orientation	Transversal	Transversal	F >> H
	A >> P	Save uncombined	Off
Phase enc. dir. Rotation		Coil Combine Mode	Adaptive Combine
	0.00 deg	AutoAlign	
Phase oversampling	0 %	Auto Coil Select	Default
FoV read	220 mm	Shim mode	Tung un
FoV phase	100.0 %		Tune up
Slice thickness	5.0 mm	Adjust with body coil	Off Off
TR 1	14.0 ms	Confirm freq. adjustment	Off Off
TR 2	10.0 ms	Assume Silicone	Off
TE	5.20 ms	! Ref. amplitude 1H	150.000 V
Averages	1	Adjustment Tolerance	Auto
Concatenations	3	Adjust volume	la a a serta e
Filter	None	Position	Isocenter
Coil elements	B4;M2,3;T1	Orientation	Transversal
Contrast		Rotation	0.00 deg
TD	0 ms	R >> L	350 mm
MTC	Off	A >> P	263 mm
		F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	Pulse/Trigger
Fat suppr.	None		
Water suppr.	None O#	Average cycle	No Signal ms
SWI	Off	Captured cycle	-not set-
Averaging mode	Short term	Acquisition window	900 ms
Reconstruction	Magnitude	Trigger pulse	1
Measurements	1	Trigger delay	0 ms
Multiple series	Each measurement	Segments	1
1	_aon moadaroment	Phases	16
Resolution		Tagging	None
· · · · ·			

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	Off
Save original images	On
Wash - In Wash - Out TTP PEI MIP - time	Off Off Off Off
MapIt Contrasts	None 1
Sequence Introduction Dimension Phase stabilisation Asymmetric echo	On 2D Off Off
Bandwidth Flow comp.	260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance VENC FOV Shift: FOV/ Random Undersampling Calibration Mode	On 1 Bands 2000 us 45 mm 80 cm/s 1 Off

\\USER\Feinberglab\Suhyung\SMVMS\localizer_100V_newcoil Voxel size: 1.2×1.1×3.0 mm Rel. SNR: 1.00

SIEMENS: gre

TA: 0:27

PAT: Off

Properties		Phase resolution Phase partial Fourier	90 % 6/8
Prio Recon	Off	Interpolation	On
Before measurement			
After measurement		PAT mode	None
Load to viewer	On	Image Filter	Off
Inline movie	Off	Distortion Corr.	Off
Auto store images	On	Prescan Normalize	Off
Load to stamp segments	Off	Normalize	Off
Load images to graphic	Off		
segments		B1 filter	Off
Auto open inline display	Off	Raw filter	Off
Start measurement without	On	Elliptical filter	Off
further preparation		Geometry	
Wait for user to start	Off	Multi-slice mode	Sequential
Start measurements	single	Series	Interleaved
I.	5g.5		······
Routine		Saturation mode	Standard
Slice group 1		Special sat.	None
Slices	5		
Dist. factor	20 %	Table position	Н
Position	Isocenter	Table position	0 mm
Orientation	Sagittal	Inline Composing	Off
Phase enc. dir.	A >> P		OII
Rotation	0.00 deg	Tim CT mode	Off
Slice group 2	o.oo dog		
Slices	5	System	
Dist. factor	20 %	T1	On
Position		T2	On
	Isocenter	T3	On
Orientation	Coronal	T4	On
Phase enc. dir.	R >> L	T5	On
Rotation	0.00 deg	Т6	On
Slice group 3		T7	On
Slices	5	T8	On
Dist. factor	20 %	L1	On
Position	Isocenter	L2	On
Orientation	Transversal	L3	On
Phase enc. dir.	A >> P	L4	On
Rotation	0.00 deg	L5	On
Phase oversampling	0 %	L6	On
FoV read	280 mm	L7	On
FoV phase	100.0 %		
Slice thickness	3.0 mm	L8	On
TR	10.0 ms	R1	On
TE	3.00 ms	R2	On
Averages	1	R3	On
Concatenations	15	R4	On
Filter	None	R5	On
		R6	On
Coil elements	L1-8;R1-8;T1-8	R7	On
Contrast		R8	On
TD	0 ms	Positioning mode	FIX
MTC	Off	MSMA	S - C - T
Magn. preparation	None	Sagittal	S - C - 1 R >> L
Flip angle	10 deg		
Fat suppr.	None	Coronal	A >> P
Water suppr.	None	Transversal	F >> H
SWI	Off	Save uncombined	On
	·····	Coil Combine Mode	Sum of Squares
Averaging mode	Short term	AutoAlign	
Reconstruction	Magnitude	Auto Coil Select	Off
Measurements	1	Shim mode	Tuno un
Multiple series	Each measurement		Tune up
·		Adjust with body coil	Off Off
Resolution		Confirm freq. adjustment	Off
Base resolution	256	Assume Silicone	Off
		! Ref. amplitude 1H	50.000 V

Adjustment Tolerance Adjust volume	Auto
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Physio	
1st Signal/Mode	None
Segments	1
Togging	None
Tagging Dark blood	Off
Dark blood	
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
MapIt	None
Contrasts	1
Sequence	
Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Bandwidth	320 Hz/Px
Flow comp.	No
RF pulse type	Normal
Gradient mode	Whisper
Excitation	Slice-sel.
DE apoiling	On

On

RF spoiling

\\USEI	R∖Feinbergl	ab\Suhyung\SMVMS\localize	er_100V_newcoil_	_Calibration
TA: 9.2 s	PAT: Off	Voxel size: 1.1×1.1×5.0 mm	Rel. SNR: 1.00	SIEMENS: gre

Phase enc. dir.	A >> P	T5	On
		T5	On
			_
Orientation	Transversal	T4	On
Position Orientation	L0.0 P0.0 H80.0	T3	On On
		T4	On
Orientation	Transversal		_
			_
			_
		_	_
Rotation	0.00 deg	T6	On
	u.uu aeg		_
Slice group 4	-	T7	On
	1	T8	On
Slices	1		
Dist. factor	700 %	L1	On
			_
Position	L0.0 P0.0 H120.0	L2	On
		L3	On
Orientation	Transversal		
Phase enc. dir.	A >> P	L4	On
		L5	On
Rotation	0.00 deg		
Phase oversampling	0 %	L6	On
		L7	On
FoV read	220 mm		_
FoV phase	100.0 %	L8	On
			_
Slice thickness	5.0 mm	R1	On
TR	10.0 ms	R2	On
TE	3.03 ms	R3	On
Averages	1	R4	On
			_
		R5	On
Concatenations	4		
		R6	On
Filter	None		
Coil elements	L1-8:R1-8:T1-8	R7	On
Coil elements	L1-8;R1-8;T1-8		
Con diomonio			
		R8	On
ontrast			
			FIV
TD	0 ms	Positioning mode	FIX
MTC	Off	MSMA	S - C - T
Magn. preparation	None	Sagittal	R >> L
Flip angle	10 deg	Coronal	A >> P
	-	Transversal	F >> H
- .	None	rransversar	Г >> П
Fat suppr.	INOTIC		
		Save uncombined	On
Fat suppr. Water suppr. SWI	None Off	Save uncombined Coil Combine Mode	On Sum of Squares

Auto Coil Select	Off
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off Off
Assume Silicone ! Ref. amplitude 1H	50.000 V
Adjustment Tolerance	Auto
Adjust volume	71010
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Physio 14t Signal/Made	None
1st Signal/Mode Segments	None 1
	I
Tagging	None
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 Off
MIP-Sag 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
	
MapIt	None
Contrasts	1
Sequence	On
Introduction Dimension	On 2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Bandwidth	320 Hz/Px
Flow comp.	No
RF pulse type	Normal
Gradient mode	Whisper
Excitation	Slice-sel.
RF spoiling	On

\\USER\Feinberglab\Suhyung\SMVMS\gre_SMVMS

TA: 2:54 PAT: Off Voxel size: 1.1×1.1×5.0 mm Rel. SNR: 1.00 USER: gre_SMVMS

Properties		Series	Interleaved
Prio Recon	Off	Saturation mode	Standard
Before measurement		Special sat.	None
After measurement			
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off		
Load images to graphic	Off	System	
segments		T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation		M3	On
Wait for user to start	Off	V32	Off
Start measurements	single	Positioning mode	REF
Routine	C	MSMA	S - C - T
		Sagittal	R >> L
Slice group 1	4	Coronal	A >> P
Slices Diet factor	1	Transversal	F >> H
Dist. factor	20 %	Save uncombined	Off
Position	Isocenter	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg		
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	5.0 mm	Assume Silicone	Off
TR 1	13.5 ms	? Ref. amplitude 1H	0.000 V
TR 2	4.5 ms	Adjustment Tolerance	Auto
TE	4.00 ms	Adjust volume	
Averages	1	Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contract		A >> P	263 mm
Contrast MTC	0"	F >> H	350 mm
	Off		
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	Pulse/Trigger
Fat suppr.	None	Average cycle	No Signal ms
Water suppr.	None	Captured cycle	-not set-
SWI	Off	Acquisition window	900 ms
Averaging mode	Short term	Trigger pulse	1
Reconstruction	Magnitude	Trigger delay	0 ms
Measurements	1	Segments	1
Multiple series	Each measurement	Phases	16
Resolution		Tagging	None
Base resolution	192	Dark blood	Off
	_		
Phase resolution	100 %	Resp. control	Off
Phase partial Fourier	Off Off	Inline	
Interpolation	Off	Subtract	Off
PAT mode	None	Liver registration	Off
Language Pile	0#	Std-Dev-Sag	Off
Image Filter	Off Off	Std-Dev-Cor	Off
Distortion Corr.	Off	Std-Dev-Tra	Off
Prescan Normalize	Off	Std-Dev-Time	Off
Normalize	Off	MIP-Sag	Off
B1 filter	Off	MIP-Cor	Off
Raw filter	Off	MIP-Col	_
Elliptical filter	Off		Off
Geometry		MIP-Time	Off
Multi-slice mode	Interleaved	Save original images	On
MUIII-SIICE HIUUE	ilitelleaveu	7/30	
		77.70	

Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
MapIt	None
Contrasts	1

Sequence

Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips	On 4 Bands 2048 us 40 mm 80 cm/s 40 cm/s Off 90 deg On

\\USER\Feinberglab\Suhyung\SMVMS\gre_SMVMS_IPAT2

TA: 1:28 PA	•	k5.0 mm Rel. SNR: 1.00 US	ER: gre_SMVMS
Properties		Elliptical filter	Off
Prio Recon	Off	Geometry	
Before measurement		Multi-slice mode	Interleaved
After measurement		Series	Interleaved
Load to viewer	On	Catamatian man I	Oten dend
Inline movie	Off	Saturation mode	Standard
Auto store images	On	Special sat.	None
Load to stamp segments	Off		
Load images to graphic	Off	Table position	H
segments		Table position	0 mm
Auto open inline display	Off	Inline Composing	Off
Start measurement without	On	System	
further preparation		T1	On
Wait for user to start	Off	M2	On
Start measurements	single	B4	On
Pouting	-	M3	On
Routine		V32	Off
Slice group 1	4		
Slices Dist factor	1	Positioning mode	REF
Dist. factor	20 %	MSMA	S-C-T
Position	Isocenter	Sagittal	R >> L
Orientation	Transversal	Coronal	A >> P
Phase enc. dir.	A >> P	Transversal	F >> H
Rotation	0.00 deg	Save uncombined	Off
Phase oversampling	0 %	Coil Combine Mode	Adaptive Combine
FoV read	220 mm	AutoAlign	
FoV phase	100.0 %	Auto Coil Select	Default
Slice thickness	5.0 mm	Shim mode	Tune up
TR 1	13.5 ms	Adjust with body coil	Off
TR 2	4.5 ms	Confirm freq. adjustment	Off
TE	4.00 ms	Assume Silicone	Off
Averages	1	? Ref. amplitude 1H	0.000 V
Concatenations	l None	Adjustment Tolerance	Auto
Filter	None	Adjust volume	, 1010
Coil elements	B4;M2,3;T1	Position	Isocenter
Contrast		Orientation	Transversal
MTC	Off	Rotation	0.00 deg
Magn. preparation	None	R >> L	350 mm
Flip angle	14 deg	A >> P	263 mm
Fat suppr.	None	F >> H	350 mm
Water suppr.	None	I	
SWI	Off	Physio	5.1.77
Averaging mode	Short term	1st Signal/Mode	Pulse/Trigger
Averaging mode Reconstruction		Average cycle	No Signal ms
	Magnitude	Captured cycle	-not set-
Measurements Multiple series	I Each measurement	Acquisition window	900 ms
Multiple series	Each measurement	Trigger pulse	1
Resolution		Trigger delay	0 ms
Base resolution	192	Segments	1
Phase resolution	100 %	Phases	16
Phase partial Fourier	Off	Tagging	None
Interpolation	Off	Dark blood	Off
PAT mode	GRAPPA	Resp. control	Off
Accel. factor PE	2	Inline	
Ref. lines PE	24	Subtract	Off
Reference scan mode	Separate	Liver registration	Off
Image Filter	Off	Std-Dev-Sag	Off
Distortion Corr.	Off	Std-Dev-Sag Std-Dev-Cor	Off
Prescan Normalize	Off	Std-Dev-Cor Std-Dev-Tra	Off
Normalize	Off	Std-Dev-Tra Std-Dev-Time	
B1 filter	Off	MIP-Sag	Off Off
Raw filter	Off	MIP-Sag MIP-Cor	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
MapIt Contrasts Sequence	None 1

Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips	On 4 Bands 2048 us 40 mm 80 cm/s 40 cm/s Off 90 deg On

\\USER\Feinberglab\Suhyung\SMVMS\gre PC SH goldstan	ndard
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TA: 2:54 PAT: Off Voxel size: 1.1x1.1x5.0 mm Rel. SNR: 1.00 USER: gre_PC_SH

Properties		Series	Ascending
Prio Recon	Off	Saturation mode	Standard
Before measurement		Special sat.	None
After measurement			
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments		M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation	0"	V32	Off
Wait for user to start	Off		
Start measurements	single	Positioning mode	REF
Routine		MSMA	S-C-T
Slice group 1		Sagittal	R >> L
Slices	1	Coronal	A >> P
Dist. factor	700 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	Defect
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	5.0 mm	Assume Silicone	Off
TR 1	14.0 ms	! Ref. amplitude 1H	150.000 V
TR 2	10.0 ms	Adjustment Tolerance	Auto
TE	5.20 ms	Adjust volume	
Averages	1	Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contrast		A >> P	263 mm
MTC	Off	—— F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	Pulse/Trigger
Fat suppr.	None	Average cycle	No Signal ms
Water suppr.	None	Captured cycle	-not set-
SWI	Off	Acquisition window	900 ms
Λ	Ch ant tanna	Trigger pulse	1
Averaging mode	Short term	Trigger delay	0 ms
Reconstruction Measurements	Magnitude	Segments	1
	Fach massurament	Phases	16
Multiple series	Each measurement		
Resolution		Tagging	None
Base resolution	192	Dark blood	Off
Phase resolution	100 %	Resp. control	Off
Phase partial Fourier	Off		
Interpolation	Off	Inline	
PAT mode	None	Subtract	Off
		Liver registration	Off
Image Filter	Off	Std-Dev-Sag	Off
Distortion Corr.	Off	Std-Dev-Cor	Off
Prescan Normalize	Off	Std-Dev-Tra Std-Dev-Time	Off Off
Normalize	Off		Off
B1 filter	Off	MIP-Sag MIP-Cor	Off
Raw filter	Off	MIP-Cor MIP-Tra	_
Elliptical filter	Off	MIP-Tra MIP-Time	Off Off
Geometry		Save original images	On
Multi-slice mode	Sequential	Gave original illiages	OII
a.a. 5.155 III045	30400 Mai	11/39	

MapIt Contrasts	None 1
MIP - time	Off
PEI	Off
TTP	Off
Wash - Out	Off
Wash - In	Off

Sequence

On
2D
Off
Off
260 Hz/Px
No
Normal
Fast
Slice-sel.
On
On
1 Bands
2000 us
45 mm
80 cm/s
1
Off
Off

TA: 0:29	PAT: 3	Voxel size: 3.9×3.9×5.0 mm	Rel. SNR: 1.00	USER: ep2d_bold_SliceAcc_770B

Droportion		Special sat.	None
Properties Properties	O#		
Prio Recon	Off	Table position	H 0.mm
Before measurement		Table position	0 mm
After measurement	On	Inline Composing	Off
Load to viewer Inline movie	On Off	System	
	-	T1	On
Auto store images	On Off	M2	On
Load to stamp segments	Off	B4	On
Load images to graphic	Oli	M3	On
segments Auto open inline display	Off	V32	Off
Start measurement without	On	Decitioning mode	DEE
	Oli	Positioning mode	REF
further preparation Wait for user to start	Off	MSMA	S-C-T
Start measurements	single	Sagittal	R >> L
Start measurements	Sirigle	Coronal	A >> P
Routine		Transversal	F >> H
Slice group 1		Coil Combine Mode	Sum of Squares
Slices	5	AutoAlign Auto Coil Select	 Default
Dist. factor	800 %	Auto Coll Select	Delault
Position	Isocenter	Shim mode	Standard
Orientation	Transversal	Adjust with body coil	Off
Phase enc. dir.	A >> P	Confirm freq. adjustment	Off
Rotation	0.00 deg	Assume Silicone	Off
Phase oversampling	0 %	? Ref. amplitude 1H	0.000 V
FoV read	500 mm	Adjustment Tolerance	Auto
FoV phase	100.0 %	Adjust volume	
Slice thickness	5.0 mm	Position	Isocenter
TR	1200 ms	Orientation	Transversal
TE	98 ms	Rotation	0.00 deg
Averages	1	R >> L	500 mm
Concatenations	1	A >> P	500 mm
Filter	None	F >> H	185 mm
Coil elements	B4;M2,3;T1	Physio	
		1 117310	
Contrast		•	None
Contrast MTC	Off	1st Signal/Mode	None
	Off 90 deg	1st Signal/Mode BOLD	
MTC		1st Signal/Mode BOLD GLM Statistics	On
MTC Flip angle Fat suppr.	90 deg Fat sat.	BOLD GLM Statistics Dynamic t-maps	On Off
MTC Flip angle Fat suppr. Averaging mode	90 deg Fat sat. Long term	BOLD GLM Statistics Dynamic t-maps Starting ignore meas	On Off 0
MTC Flip angle Fat suppr. Averaging mode Reconstruction	90 deg Fat sat. Long term Magnitude	BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition	On Off 0 0
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements	90 deg Fat sat. Long term Magnitude 20	BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states	On Off 0 0 On
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR	90 deg Fat sat. Long term Magnitude 20 0 ms	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter	On Off 0 0 On On
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series	90 deg Fat sat. Long term Magnitude 20	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold	On Off 0 0 On On 4.00
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution	90 deg Fat sat. Long term Magnitude 20 0 ms Off	BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size	On Off 0 0 On On 4.00 20
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution	90 deg Fat sat. Long term Magnitude 20 0 ms Off	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1]	On Off 0 0 On On On 4.00 20 Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 %	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2]	On Off 0 0 On On On 4.00 20 Baseline Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase partial Fourier	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3]	On Off 0 0 On On On 4.00 20 Baseline Baseline Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 %	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4]	On Off 0 0 On On On 4.00 20 Baseline Baseline Baseline Baseline Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase partial Fourier Interpolation	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5]	On Off 0 0 On On On 4.00 20 Baseline Baseline Baseline Baseline Baseline Baseline Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase partial Fourier Interpolation PAT mode	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6]	On Off 0 0 On On A.00 20 Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7]	On Off 0 0 On On A.00 20 Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8]	On Off 0 0 0 On On 4.00 20 Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[7] Meas[8] Meas[9]	On Off 0 0 0 On On 4.00 20 Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr.	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate Off	1st Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[7] Meas[8] Meas[9] Meas[10]	On Off 0 0 0 On On A.00 20 Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate Off Off	Tst Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11]	On Off 0 0 0 On On A.00 20 Baseline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate Off Off Off	Tst Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12]	On Off 0 0 0 On On A.00 20 Baseline Active Active
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate Off Off Off Off Off Off Off Off Off O	Tst Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[7] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13]	On Off 0 0 0 On On A.00 20 Baseline Active Active Active
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate Off Off Off	Tst Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[13] Meas[14]	On Off 0 0 0 On On A.00 20 Baseline Bateline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate Off Off Off Off Off Off Off Off Off O	Tst Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[14] Meas[15]	On Off 0 0 0 On On A.00 20 Baseline Active Active Active Active Active
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming Geometry	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate Off Off Off Off Off Off Off Off Off O	Tst Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[15] Meas[15] Meas[15]	On Off 0 0 0 On On A.00 20 Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Bateline
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming Geometry Multi-slice mode	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate Off Off Off Off Off Off Interleaved	Tst Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[11] Meas[12] Meas[12] Meas[13] Meas[14] Meas[15] Meas[15] Meas[15] Meas[16] Meas[17]	On Off 0 0 0 On On A.00 20 Baseline Active Active Active Active Active
MTC Flip angle Fat suppr. Averaging mode Reconstruction Measurements Delay in TR Multiple series Resolution Base resolution Phase resolution Phase partial Fourier Interpolation PAT mode Accel. factor PE Ref. lines PE Reference scan mode Distortion Corr. Prescan Normalize Raw filter Elliptical filter Hamming Geometry	90 deg Fat sat. Long term Magnitude 20 0 ms Off 128 100 % Off Off GRAPPA 3 36 Separate Off Off Off Off Off Off Off Off Off O	Tst Signal/Mode BOLD GLM Statistics Dynamic t-maps Starting ignore meas Ignore after transition Model transition states Temp. highpass filter Threshold Paradigm size Meas[1] Meas[2] Meas[3] Meas[4] Meas[5] Meas[6] Meas[6] Meas[7] Meas[8] Meas[9] Meas[10] Meas[10] Meas[11] Meas[12] Meas[13] Meas[14] Meas[15] Meas[15] Meas[15] Meas[15]	On Off 0 0 0 On On A.00 20 Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Baseline Bateline

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

Sequence

Introduction Bandwidth Free echo spacing	Off 752 Hz/Px Off
Echo spacing	1.4 ms
EPI factor RF pulse type Gradient mode	128 Normal Fast
Slice acc. factor RF clip VERSE factor PE shift factor	5 0 1.00 1
Fat sat. flip angle FFT factor	110 deg 1.00

\\USER\Feinberglab\Suhyung\SMVMS\gre_SMVMS_NonPhCy_res35_000

TA: 5.1 s PAT: Off Voxel size: 3.4×3.4×3.0 mm Rel. SNR: 1.00 USER: gre_SMVMS_NonPhCy

		Interleaved
de	Off	Standard
	ment	None
	ent	
1	On	Н
1		0 mm
sing		Off
3	eaments Off	
	graphic Off Sy	
		On
	display Off	On
	ent without On	On
	on	On
	start Off	Off
		DEE
ode	Single	REF S - C - T
		R >> L
	1	A >> P
	20 %	F >> H
ined	Isocenter	Off
Mode	Hallavelaal	Adaptive Combine
	A >> P	
ect	0.00 deg	Default
	- Line 7 0 0/	Tuno un
dy coil	200	Tune up Off
		Off
adjustment		
one		Off
de 1H		0.000 V
olerance		Auto
•		
	1	Isocenter
1	1 Name	Transversal
	None	0.00 deg
	B4;M2,3;T1	350 mm
		263 mm
	Off	350 mm
-1 -	on None Pr 14 deg	Niero
de		None
	None	1
	Off	None
		Off
	Short term	
	Magnitude	Off
	1 Inl	
	Fook magaziromant	Off
ion		Off
ion		Off
	64	Off
	n 100 %	Off
	ourier Off	Off
	Off	Off
	Nana	Off
	None	Off
	Off	Off
	Off	Off
images	ize Off	On
	011	O#
	0"	Off
	0"	Off
	Off	Off
	Off	Off
		Off
	Interleaved	

MapIt Contrasts	None 1
Sequence	·
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On Off Off

\\USER\Feinberglab\Suh	vuna\SMVMS\are	SMVMS NonPho	Cv res35 100

TA: 5.1 s PAT: Off Voxel size: 3.4x3.4x3.0 mm Rel. SNR: 1.00 USER: gre_SMVMS_NonPhCy

Proportion		Series	Interleaved
Properties Prio Recon	Off	Saturation mode	Standard
Before measurement	OII	Saturation mode	Standard None
After measurement		Special sat.	NOTIC
Load to viewer	On	Table position	 Н
Inline movie	Off	Table position	П 0 mm
Auto store images	On	Table position	Off
Load to stamp segments	Off	Inline Composing	Off
Load images to graphic	Off	System	
segments	Oll	T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation	Oli	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single		DEE.
Start measurements	Single	Positioning mode	REF
Routine		MSMA	S-C-T
Slice group 1		Sagittal	R >> L
Slices	1	Coronal	A >> P
Dist. factor	20 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	Defects
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms	Adjustment Tolerance	Auto
TE	3.80 ms	Adjust volume	
Averages	1	Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contract		A >> P	263 mm
Contrast MTC	O#	— F >> H	350 mm
	Off	l	
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr.	None O#	Tagging	None
SWI	Off	Dark blood	Off
Averaging mode	Short term		
Reconstruction	Magnitude	Resp. control	Off
Measurements	1	Inline	
Multiple series	Each measurement	Subtract	Off
1		Liver registration	Off
Resolution	0.4	Std-Dev-Sag	Off
Base resolution	64	Std-Dev-Sag Std-Dev-Cor	Off
Phase resolution	100 %	Std-Dev-Col	Off
Phase partial Fourier	Off Off	Std-Dev-Time	Off
Interpolation	Off	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
		MIP-Tra	Off
Image Filter	Off	MIP-Time	Off
Distortion Corr.	Off	Save original images	On
Prescan Normalize	Off		·····
Normalize	Off	Wash - In	Off
B1 filter	Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
1		17/20	

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On On Off Off

\\USER\Feinberglab\Suhyung\SMVMS\gre_SMVMS_NonPhCy_res35_110

TA: 5.1 s PAT: Off Voxel size: 3.4x3.4x3.0 mm Rel. SNR: 1.00 USER: gre_SMVMS_NonPhCy

Properties		Series	Interleaved
Prio Recon	Off	Saturation mode	Standard
Before measurement	Oil	Special sat.	None
After measurement			None
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off		Oll
Load images to graphic	Off	System	
segments		T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation		M3	On O"
Wait for user to start	Off	V32	Off
Start measurements	single	Positioning mode	REF
Routine		MSMA	S-C-T
Slice group 1		Sagittal	R >> L
Slices	1	Coronal	A >> P
Dist. factor	20 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode AutoAlign	Adaptive Combine
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Auto Coli Select	Delaul
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms	Adjustment Tolerance	Auto
· =	3.80 ms	Adjust volume	
Averages	1	Position	Isocenter
Concatenations Filter	None	Orientation	Transversal
Coil elements	None	Rotation	0.00 deg
Coll elements	B4;M2,3;T1	R >> L	350 mm
Contrast		A >> P	263 mm
MTC	Off	— F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr.	None	Togging	None
SWI	Off	Tagging Dark blood	Off
Averaging mode	Short term		OII
Reconstruction	Magnitude	Resp. control	Off
Measurements	1	Inline	
Multiple series	Each measurement	Subtract	Off
Resolution		Liver registration	Off
Base resolution	64	Std-Dev-Sag	Off
Phase resolution	100 %	Std-Dev-Cor	Off
Phase partial Fourier	Off	Std-Dev-Tra	Off
Interpolation	Off	Std-Dev-Time	Off
	U II	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Distortion Corr.	Off	MIP-Time	Off
Prescan Normalize	Off	Save original images	On
Normalize	Off	Wash - In	Off
B1 filter	Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	Off
		MIP - time	Off
Geometry	Interlogued		J.,
Multi-slice mode	Interleaved	10/20	

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On On On

\\USER\Feinbergiab\Sunyung\SMVMS\gre_SMVMS_NonPnCy_res23_000				
TA: 6.9 s	PAT: Off	Voxel size: 2.3×2.3×3.0 mm	Rel. SNR: 1.00	USER: gre_SMVMS_NonPhCy

Properties		Series	Interleaved
Prio Recon	Off	Saturation mode	Standard
Before measurement		Special sat.	None
After measurement			
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments		M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation	0"	V32	Off
Wait for user to start	Off		
Start measurements	single	Positioning mode	REF
Routine		MSMA	S-C-T
Slice group 1		Sagittal	R >> L
Slices	1	Coronal	A >> P
Dist. factor	20 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	 D ();
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms	Adjustment Tolerance	Auto
TE	3.80 ms	Adjust volume	
Averages	1	Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contrast		A >> P	263 mm
MTC	Off	F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr.	None		
SWI	Off	Tagging	None
Averaging mode	Chart tarm	Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	· ·	U
Measurements Multiple series	Each measurement	Inline	
·	Lacii ilicasuleilleill	Subtract	Off
Resolution		Liver registration	Off
Base resolution	96	Std-Dev-Sag	Off
Phase resolution	100 %	Std-Dev-Cor	Off
Phase partial Fourier	Off	Std-Dev-Tra	Off
Interpolation	Off	Std-Dev-Time	Off
PAT mode	None	MIP-Sag	Off
	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Distortion Corr.	Off	MIP-Time	Off
Prescan Normalize	Off	Save original images	On
Normalize	Off	Wash - In	Off
B1 filter	Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
Walti Glioc Hodo	Mondavoa	21/39	

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On Off Off

	\\USER\F	einberglab\Suhyung\SMVMS	S\gre_SMVMS_No	onPhCy_res23_100
TA: 69s	PAT: Off	Voxel size: 2.3x2.3x3.0 mm	Rel SNR: 1.00	USER: are SMVMS NonPhCv

Properties		Series	Interleaved
Prio Recon	Off	Saturation mode	Standard
Before measurement		Special sat.	None
After measurement			
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off	I milite Composing	Oli
Load images to graphic	Off	System	
segments	Oli	T1	On
Auto open inline display	Off	M2	On
Start measurement without		B4	On
	On	M3	On
further preparation	0"	V32	Off
Wait for user to start	Off		
Start measurements	single	Positioning mode	REF
Routine		MSMA	S - C - T
Slice group 1		Sagittal	R >> L
Slices	4	Coronal	A >> P
	1 20 %	Transversal	F >> H
Dist. factor		Save uncombined	Off
Position	Isocenter	Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Auto Coli Select	Delault
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms		
TE TE	3.80 ms	Adjustment Tolerance	Auto
	1	Adjust volume	
Averages		Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contrast		A >> P	263 mm
MTC	Off	── F >> H	350 mm
Magn. preparation	None	D	
		Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr.	None	Togging	None
SWI	Off	Tagging	None
Avoraging mode	Short term	Dark blood	Off
Averaging mode		Resp. control	Off
Reconstruction	Magnitude	1	5
Measurements		Inline	
Multiple series	Each measurement	Subtract	Off
Resolution		Liver registration	Off
Base resolution	96	Std-Dev-Sag	Off
Phase resolution	100 %	Std-Dev-Cor	Off
		Std-Dev-Tra	Off
Phase partial Fourier	Off Off	Std-Dev-Time	Off
Interpolation	Off	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Distortion Corr.	Off	MIP-Time	Off
Prescan Normalize	Off	Save original images	On
Normalize	Off	Wash - In	Off
B1 filter	Off		_
Raw filter	Off	Wash - Out	Off
	Off	TTP	Off
Elliptical filter	Oil	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
1		1	

	MapIt Contrasts	None 1
,	Sequence	
	Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
	RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
	SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On On Off

\\USER\Feinberglab\Suhyung\SMVMS\gre_SMVMS_NonPhCy_res23_110				
TA: 6.9 s	PAT: Off	Voxel size: 2.3×2.3×3.0 mm	Rel. SNR: 1.00	USER: are SMVMS NonPhCv

Properties		Series	Interleaved
Prio Recon	Off	Saturation mode	Standard
Before measurement		Special sat.	None
After measurement			
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments		M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation	0"	V32	Off
Wait for user to start	Off		
Start measurements	single	Positioning mode	REF
Routine		MSMA	S - C - T
Slice group 1		Sagittal	R >> L
Slices	1	Coronal	A >> P
Dist. factor	20 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	D-fIt
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms	Adjustment Tolerance	Auto
TE	3.80 ms	Adjust volume	
Averages	1	Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contrast		A >> P	263 mm
MTC	Off	—— F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr.	None		
SWI	Off	Tagging	None
A	Ch aut taura	Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	1	3 11
Measurements Multiple series	Each measurement	Inline	
Multiple SelleS	Lacii illeasurement	Subtract	Off
Resolution		Liver registration	Off
Base resolution	96	Std-Dev-Sag	Off
Phase resolution	100 %	Std-Dev-Cor	Off
Phase partial Fourier	Off	Std-Dev-Tra	Off
Interpolation	Off	Std-Dev-Time	Off
PAT mode	None	MIP-Sag	Off
	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Distortion Corr.	Off	MIP-Time	Off
Prescan Normalize	Off	Save original images	On
Normalize	Off	Wash - In	Off
B1 filter	Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
Main Shoc mode	intoricavoa	25/39	

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On On On

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TA: 8.7 s PAT: Off Voxel size: 1.7×1.7×3.0 mm Rel. SNR: 1.00 USER: gre_SMVMS_NonPhCy

Properties		Series	Interleaved
Prio Recon	Off	Saturation mode	Standard
Before measurement		Special sat.	None
After measurement			
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments		M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation	0"	V32	Off
Wait for user to start	Off		
Start measurements	single	Positioning mode	REF
Routine		MSMA	S - C - T
Slice group 1		Sagittal	R >> L
Slices	1	Coronal	A >> P
Dist. factor	20 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	Defect
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms	Adjustment Tolerance	Auto
TE	3.80 ms	Adjust volume	
Averages	1	Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contrast		A >> P	263 mm
MTC	Off	F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr.	None		
SWI	Off	Tagging	None
A	Ob	Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	· ·	5
Measurements Multiple series	Each measurement	Inline	
Multiple SelleS	Lacifileasurement	Subtract	Off
Resolution		Liver registration	Off
Base resolution	128	Std-Dev-Sag	Off
Phase resolution	100 %	Std-Dev-Cor	Off
Phase partial Fourier	Off	Std-Dev-Tra	Off
Interpolation	Off	Std-Dev-Time	Off
PAT mode	None	MIP-Sag	Off
	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Distortion Corr.	Off	MIP-Time	Off
Prescan Normalize	Off	Save original images	On
Normalize	Off	Wash - In	Off
B1 filter	Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
Wall Slice Houe	intolloavoa	27/39	

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On Off Off

TA: 8.7 s PAT: Off Voxel size: 1.7×1.7×3.0 mm Rel. SNR: 1.00 USER: gre_SMVMS_NonPhCy

Proportion		Series	Interleaved
Properties Prio Recon	Off	Saturation made	Standard
Before measurement	OII	Saturation mode	Standard None
After measurement		Special sat.	NOTIC
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	П 0 mm
Auto store images	On	Table position	Off
Load to stamp segments	Off	Inline Composing	Off
Load images to graphic	Off	System	
segments	Oli	T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation	OII	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single	D '''	DEE
Start measurements	Sirigle	Positioning mode	REF
Routine		MSMA	S - C - T R >> L
Slice group 1		Sagittal	=
Slices	1	Coronal	A >> P
Dist. factor	20 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	Defect
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms	Adjustment Tolerance	Auto
TE	3.80 ms	Adjust volume	
Averages	1	Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contract		A >> P	263 mm
Contrast MTC	0#	—	350 mm
	Off	ı	
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr.	None	Tagging	None
SWI	Off	- Dark blood	Off
Averaging mode	Short term		
Reconstruction	Magnitude	Resp. control	Off
Measurements	1	Inline	
Multiple series	Each measurement	Subtract	Off
1		Liver registration	Off
Resolution	400	Std-Dev-Sag	Off
Base resolution	128	Std-Dev-Cor	Off
Phase resolution	100 %	Std-Dev-Coi	Off
Phase partial Fourier	Off	Std-Dev-Time	Off
Interpolation	Off	- MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
		MIP-Tra	Off
Image Filter	Off	MIP-Time	Off
Distortion Corr.	Off	Save original images	On
Prescan Normalize	Off		OII
Normalize	Off	Wash - In	Off
B1 filter	Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
Width-Shoe Hibue	mieneaveu	20/20	

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On On Off

\\USER\Feinberglab\Suhyung\SMVMS\gre_SMVMS_NonPhCy_res17_110	

TA: 8.7 s PAT: Off Voxel size: 1.7×1.7×3.0 mm Rel. SNR: 1.00 USER: gre_SMVMS_NonPhCy

Properties		Series	Interleaved
Prio Recon	Off	Saturation mode	Standard
Before measurement		Special sat.	None
After measurement			
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off		Oll
Load images to graphic	Off	System	
segments	3.1	T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
	Oli	M3	On
further preparation Wait for user to start	Off	V32	Off
	_		
Start measurements	single	Positioning mode	REF
Routine		MSMA	S - C - T
Slice group 1		─ Sagittal	R >> L
Slices	1	Coronal	A >> P
Dist. factor	20 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
		AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg		
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms	Adjustment Tolerance	Auto
TE	3.80 ms	Adjust volume	Auto
Averages	1	I = -	laggantar
Concatenations	1	Position	Isocenter
Filter	•	Orientation	Transversal
	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contrast		A >> P	263 mm
MTC	Off	─	350 mm
Magn. preparation	None	Dhysis	
Flip angle	14 deg	Physio	NI .
	None	1st Signal/Mode	None
Fat suppr.		Segments	1
Water suppr.	None	Tagging	None
SWI	Off	Dark blood	Off
Averaging mode	Short term	Daik blood	
Reconstruction	Magnitude	Resp. control	Off
Measurements	1	· ·	
	Each measurement	Inline	
Multiple series	Laur measurement	Subtract	Off
Resolution		Liver registration	Off
Base resolution	128	Std-Dev-Sag	Off
Phase resolution	100 %	Std-Dev-Cor	Off
Phase partial Fourier	Off	Std-Dev-Tra	Off
Interpolation	Off	Std-Dev-Time	Off
	— — — — — — — — — — — — — — — — — — —	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
		MIP-Tra	Off
Image Filter	Off	MIP-Time	Off
Distortion Corr.	Off		
Prescan Normalize	Off	Save original images	On
Normalize	Off	Wash - In	Off
B1 filter	Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	
·	5		Off Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On On On

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TA: 8.7 s PAT: Off Voxel size: 1.7×1.7×3.0 mm Rel. SNR: 1.00 USER: gre_SMVMS_NonPhCy

Properties		Series	Interleaved
Prio Recon	Off	Saturation mode	Standard
Before measurement		Special sat.	None
After measurement			
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments		M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation		V32	Off
Wait for user to start	Off		
Start measurements	single	Positioning mode	REF
Routine		MSMA	S - C - T
Slice group 1		Sagittal	R >> L
Slices	1	Coronal	A >> P
Dist. factor	20 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	 D ()
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms	Adjustment Tolerance	Auto
TE	3.80 ms	Adjust volume	. 1010
Averages	1	Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contrast		A >> P	263 mm
MTC	Off	—— F >> H	350 mm
Magn. preparation	None	Dhyaia	
Flip angle	14 deg	Physio	Mana
Fat suppr.	None	1st Signal/Mode	None
Water suppr.	None	Segments	1
SWI	Off	Tagging	None
		Dark blood	Off
Averaging mode	Short term	Dan and al	O#
Reconstruction	Magnitude	Resp. control	Off
Measurements	1 .	Inline	
Multiple series	Each measurement	Subtract	Off
Resolution		Liver registration	Off
Base resolution	128	Std-Dev-Sag	Off
Phase resolution	100 %	Std-Dev-Cor	Off
Phase partial Fourier	Off	Std-Dev-Tra	Off
Interpolation	Off	Std-Dev-Time	Off
		···· MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Distortion Corr.	Off	MIP-Time	Off
Prescan Normalize	Off	Save original images	On
Normalize	Off	Wash - In	Off
B1 filter	Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	Off
•	-	MIP - time	Off
Geometry			OII
Multi-slice mode	Interleaved		

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On Off Off Off

	\\USER\F	einberglab\Sunyung\SMVMS	S\gre_SMVMS_No	onPhCy_res17_101
TA: 8.7 s	PAT: Off	Voxel size: 1.7×1.7×3.0 mm	Rel. SNR: 1.00	USER: gre_SMVMS_NonPhCy

Properties		Series	Interleaved
Prio Recon	Off	Saturation mode	Standard
Before measurement		Special sat.	None
After measurement			
Load to viewer	On	Table position	Н
Inline movie	Off	Table position	0 mm
Auto store images	On	Inline Composing	Off
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments		M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation	0"	V32	Off
Wait for user to start	Off		
Start measurements	single	Positioning mode	REF
Routine		MSMA	S-C-T
Slice group 1		Sagittal	R >> L
Slices	1	Coronal	A >> P
Dist. factor	20 %	Transversal	F >> H
Position	Isocenter	Save uncombined	Off
Orientation	Transversal	Coil Combine Mode	Adaptive Combine
Phase enc. dir.	A >> P	AutoAlign	D-fdt
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	Shim mode	Tune up
FoV read	220 mm	Adjust with body coil	Off
FoV phase	100.0 %	Confirm freq. adjustment	Off
Slice thickness	3.0 mm	Assume Silicone	Off
TR 1	14.0 ms	? Ref. amplitude 1H	0.000 V
TR 2	3.5 ms	Adjustment Tolerance	Auto
TE	3.80 ms	Adjust volume	
Averages	1	Position	Isocenter
Concatenations	1	Orientation	Transversal
Filter	None	Rotation	0.00 deg
Coil elements	B4;M2,3;T1	R >> L	350 mm
Contrast		A >> P	263 mm
MTC	Off	—— F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr.	None		
SWI	Off	Tagging	None
A	Oh	Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	1	ŬII
Measurements Multiple series	I Each measurement	Inline	
Multiple series	Each measurement	Subtract	Off
Resolution		Liver registration	Off
Base resolution	128	Std-Dev-Sag	Off
Phase resolution	100 %	Std-Dev-Cor	Off
Phase partial Fourier	Off	Std-Dev-Tra	Off
Interpolation	Off	Std-Dev-Time	Off
PAT mode	None	···· MIP-Sag	Off
FAT IIIOUE	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Distortion Corr.	Off	MIP-Time	Off
Prescan Normalize	Off	Save original images	On
Normalize	Off	Wash - In	Off
B1 filter	Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	Off
•		MIP - time	Off
Geometry Multiplica mode	Interlegued		-
Multi-slice mode	Interleaved		

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On On Off On

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TA: 8.7 s PAT: Off Voxel size: 1.7×1.7×3.0 mm Rel. SNR: 1.00 USER: gre_SMVMS_NonPhCy

nter versal Dedeg nm % m ns s	Saturation mode Special sat. Table position Table position Inline Composing System T1 M2 B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H Adjustment Tolerance	Standard None H 0 mm Off On On On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off Off Off
nter versal P deg nm % m ns	Table position Table position Inline Composing System T1 M2 B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	H 0 mm Off On On On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
nter versal P deg nm % m ns	Table position Inline Composing System T1 M2 B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	O mm Off On On On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
nter versal P deg nm % m ns	Table position Inline Composing System T1 M2 B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	O mm Off On On On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
nter versal P deg nm % m ns	Inline Composing System T1 M2 B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	Off On On On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
nter versal P deg nm % m ns	System T1 M2 B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	On On On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
nter versal P deg nm % m ns	T1 M2 B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	On On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
nter versal P deg nm % m ns	T1 M2 B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	On On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
nter versal P deg nm % m ns	M2 B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	On On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
nter versal P deg nm % m ns	B4 M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	On On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off Off
nter versal P deg nm % m ns	M3 V32 Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	On Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off Off
nter versal P deg nm % m ns	Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	Off REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off Off
nter versal P deg nm % m ns	Positioning mode MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	REF S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
nter versal P deg nm % m ns	MSMA Sagittal Coronal Transversal Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	S - C - T R >> L A >> P F >> H Off Adaptive Combine Default Tune up Off Off
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versal P deg m % m ns s	Save uncombined Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	Off Adaptive Combine Default Tune up Off Off
versal P deg m % m ns s	Coil Combine Mode AutoAlign Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	Adaptive Combine Default Tune up Off Off
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deg nm % m ns s	Auto Coil Select Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	Default Tune up Off Off
nm % m ns s	Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	Tune up Off Off
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% m ns s	Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H	Off Off
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S		
	Adjustment Tolerance	0.000 V
ns	, tajaetie e.e.aee	Auto
	Adjust volume	
	Position	Isocenter
	Orientation	Transversal
	Rotation	0.00 deg
2,3;T1	R >> L	350 mm
	A >> P	263 mm
	— F >> H	350 mm
	Physio	
q		None
		1
		None
	Dark blood	Off
	Resp. control	Off
tude	1	3 11
magguramant		
neasurement		Off
		Off
		Off
· •		Off
	Save original images	On
	Wash - In	Off
	Wash - Out	Off
	TTP	Off
	PEI	Off
	MIP - time	Off
	g term itude measurement	Physio 1st Signal/Mode Segments Tagging Dark blood Resp. control 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

MapIt Contrasts	None 1
Sequence	
Introduction Dimension Phase stabilisation Asymmetric echo Bandwidth Flow comp.	On 2D Off Off 260 Hz/Px No
RF pulse type Gradient mode Excitation RF spoiling	Normal Fast Slice-sel. On
SMS Pulse SMS Factor RF Duration Slice Distance High VENC Low VENC Random UnderSampling Phs Diff. Bet. Sls. Blips RF Spoil VarFA Phase Enc. off	On 1 Bands 1600 us 30 mm 80 cm/s 40 cm/s Off 90 deg On On On

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