\\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
	9.~	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 up
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 Save original images	Off
Wash - In Wash - Out TTP PEI MIP - time MapIt Contrasts	Off Off Off Off Off Off Off
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 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

TA: 0:27 PAT: Off Voxel size: 1.2×1.1×3.0 mm Rel. SNR: 1.00 SIEMENS: gre			
Droportion		Phase resolution	90 %
Properties Prio Recon	0#	Phase partial Fourier	6/8
Before measurement	Off	Interpolation	On
After measurement		PAT mode	None
Load to viewer	On		
Inline movie	Off	Image Filter	Off
Auto store images	On	Distortion Corr.	Off
Load to stamp segments	Off	Prescan Normalize	Off
Load images to graphic	Off	Normalize	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
Routine		Cotumption mode	Ctondond
Slice group 1		Saturation mode	Standard
Slices	5	Special sat.	None
Dist. factor	20 %		⊔
Position	Isocenter	Table position Table position	H 0 mm
Orientation	Sagittal	Inline Composing	Off
Phase enc. dir.	A >> P		OII
Rotation	0.00 deg	Tim CT mode	Off
Slice group 2	3	System	
Slices	5	T1	On
Dist. factor	20 %	T2	On
Position	Isocenter	T3	On
Orientation	Coronal	T4	On
Phase enc. dir.	R >> L	T5	On
Rotation	0.00 deg	T6	On
Slice group 3		T7	On
Slices	5	Т8	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 FoV read	0 %	L6	On
FoV read FoV phase	280 mm 100.0 %	L7	On
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 R5	On On
Filter	None	R5 R6	On On
Coil elements	L1-8;R1-8;T1-8	R7	On
	•	R8	On
Contrast TD	0 ms		
MTC	Off	Positioning mode	FIX
Magn. preparation	None	MSMA	S-C-T
Flip angle	10 deg	Sagittal	R >> L
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 Auto Coil Select	 Off
Reconstruction	Magnitude	Auto Coli Select	OII
Measurements	1 Fack many	Shim mode	Tune up
Multiple series	Each measurement	Adjust with body coil	Off
Resolution		Confirm freq. adjustment	Off
Base resolution	256	Assume Silicone	Off
•		! Ref. amplitude 1H	50.000 V

! 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
ı	330 11111
Physio	News
1st Signal/Mode	None
Segments	1
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
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Wash - In	O#
	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

\\USER\F		IVMS\localizer_100V_newcoil	_Calibration
TA: 9.2 s P	AT: Off Voxel size: 1.1x	1.1×5.0 mm Rel. SNR: 1.00	SIEMENS: gre
Properties		Averaging mode Reconstruction	Short term Magnitude
Prio Recon	Off	Measurements	1
Before measurement		Multiple series	Each measurement
After measurement		· ·	
Load to viewer	On O#	Resolution	400
Inline movie	Off	Base resolution Phase resolution	192 100 %
Auto store images Load to stamp segments	On Off	Phase partial Fourier	Off
Load images to graphic	Off	Interpolation	On
segments	3 11		
Auto open inline display	Off	PAT mode	None
Start measurement without	On	Image Filter	Off
further preparation		Distortion Corr.	Off
Wait for user to start	Off	Prescan Normalize	Off
Start measurements	single	Normalize	Off
Routine		B1 filter	Off
Slice group 1		Raw filter	Off
Slice group 1	1	Elliptical filter	Off
Dist. factor	700 %	Geometry	
Position	Isocenter	Multi-slice mode	Sequential
Orientation	Transversal	Series	Interleaved
Phase enc. dir.	A >> P		
Rotation	0.00 deg	Saturation mode	Standard
Slice group 2		Special sat.	None
Slices	1	T.11	
Dist. factor	700 %	Table position	H
Position	L0.0 P0.0 H40.0	Table position	0 mm
Orientation	Transversal	Inline Composing	Off
Phase enc. dir.	A >> P	Tim CT mode	Off
Rotation	0.00 deg	System	
Slice group 3 Slices	1	T1	On
Dist. factor	700 %	T2	On
Position	L0.0 P0.0 H80.0	T3	On
Orientation	Transversal	T4	On
Phase enc. dir.	A >> P	T5	On
Rotation	0.00 deg	Т6	On
Slice group 4	•	T7	On
Slices	1	Т8	On
Dist. factor	700 %	L1	On
Position	L0.0 P0.0 H120.0	L2	On
Orientation	Transversal	L3	On
Phase enc. dir.	A >> P	L4 L5	On On
Rotation	0.00 deg	L5	On
Phase oversampling FoV read	0 % 220 mm	L6 L7	On
FoV read 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
Concatenations	4	R5	On
Filter	None	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	R >> L
Flip angle	10 deg	Coronal	A >> P
Fat suppr.	None	Transversal	F >> H
Water suppr.	None	Save uncombined Coil Combine Mode	On Sum of Squares

SWI

Off

Coil Combine Mode

AutoAlign

Sum of Squares

Auto Coil Select	Off
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H Adjustment Tolerance	50.000 V Auto
Adjust volume	Adio
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
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
MIP-Sag	Off
MIP-Cor MIP-Tra	Off Off
MIP-Time	Off
Save original images	On
Wash - In	O#
Wash - Out	Off Off
TTP	Off
PEI	Off
MIP - time	Off
MapIt	None
Contrasts	1
Sequence	
Introduction	On
Dimension Phase stabilisation	2D Off
Asymmetric echo	Oπ Allowed
Bandwidth	320 Hz/Px
Flow comp.	No
RF pulse type Gradient mode	Normal Whisper
Excitation	Slice-sel.
RF spoiling	On
1 -1 - 3	

\\USER\Feinberglab\Suhyung\SMVMS\gre_SMVMS

TA: 2:54 PAT: Off Voxel size: 1.1x1.1x5.0 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	311	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single	Daritionia manda	DEE
Start measurements	Sirigie	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	
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0 %	Chim made	Tuna un
FoV read	220 mm	Shim mode	Tune up
FoV phase	100.0 %	Adjust with body coil	Off
Slice thickness	5.0 mm	Confirm freq. adjustment	Off
TR 1	13.5 ms	Assume Silicone	Off
		? 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
Contrast		A >> P	263 mm
MTC	Off	—	350 mm
Magn. preparation	None	Dhysia	
Flip angle	14 deg	Physio	D 1 /T:
Fat suppr.	None	1st Signal/Mode	Pulse/Trigger
186		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
•	Lacit measurement	Togging	None
Resolution		Tagging	None
Base resolution	192	— Dark blood	Off
Phase resolution	100 %	Resp. control	Off
Phase partial Fourier	Off	· ·	
Interpolation	Off	Inline	
		- Subtract	Off
PAT mode	None	Liver registration	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		MIP-Sag	Off
	Off Off	MIP-Cor	Off
Raw filter	Off	MIP-Tra	Off
Elliptical filter	Off	MIP-Time	Off
Geometry		Save original images	On
Multi-slice mode	Interleaved	Gave original illayes	
Watt Glico Mode	Intorioavoa	'	

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

Sequence

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

\\USER\Feinberglab\Suhyung\SMVMS\gre_SMVMS_IPAT2

		Elliptical filter	Off
Properties Prio Recon	Off	Geometry	-
	Oii		Interleaved
Before measurement After measurement		Multi-slice mode Series	Interleaved Interleaved
	On	Series	inteneaveu
Load to viewer	On Off	Saturation mode	Standard
Inline movie	Off	Special sat.	None
Auto store images	On O#		
Load to stamp segments	Off	Table position	Н
Load images to graphic	Off	Table position	0 mm
segments	Off	Inline Composing	Off
Auto open inline display	Off		-
Start measurement without	On	System	
further preparation	Off	T1	On
Wait for user to start	Off	M2	On
Start measurements	single	B4	On
outine		M3	On
Slice group 1		V32	Off
Slices	1	Positioning mode	REF
Dist. factor	20 %	MSMA	S-C-T
Position	Isocenter	Sagittal	R >> L
Orientation	Transversal	Coronal	R >> L A >> P
Phase enc. dir.	A >> P	Transversal	A >> P F >> H
Rotation	0.00 deg	Save uncombined	г>>п Off
Phase oversampling	0 %	Coil Combine Mode	
FoV read	220 mm	AutoAlign	Adaptive Combine
FoV phase	100.0 %	Auto Coil Select	Default
Slice thickness	5.0 mm	Auto Coii Select	Delauli
TR 1	13.5 ms	Shim mode	Tune up
TR 2	4.5 ms	Adjust with body coil	Off
TE	4.00 ms	Confirm freq. adjustment	Off
Averages	1	Assume Silicone	Off
Concatenations	1	? Ref. amplitude 1H	0.000 V
Filter	None	Adjustment Tolerance	Auto
Coil elements	B4;M2,3;T1	Adjust volume	
	⊃ 1,1V1∠,∪, 1 1	Position	Isocenter
ontrast		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	ļ	
SWI	Off	Physio	D 1 5
Averaging mode	Short torm	1st Signal/Mode	Pulse/Trigger
Averaging mode	Short term	Average cycle	No Signal ms
Reconstruction	Magnitude	Captured cycle	-not set-
Measurements Multiple period	I Food magaziramant	Acquisition window	900 ms
Multiple series	Each measurement	Trigger pulse	1
esolution		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
			OII
PAT mode	GRAPPA	Resp. control	Off
Accel. factor PE	2	Inline	
Ref. lines PE	24		0"
Reference scan mode	Separate	Subtract	Off
Image Filter	Off	Liver registration	Off
Image Filter	Off	Std-Dev-Sag	Off
Distortion Corr.		Std-Dev-Cor	Off
Prescan Normalize	Off Off	Std-Dev-Tra	Off
Normalize	Off Off	Std-Dev-Time	Off
B1 filter	Off	MIP-Sag	Off
Raw filter	Off	MIP-Cor	Off

MIP-Cor

Off

Raw filter

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

 $\verb|\USER\Fe| in berglab \Suhyung \SMVMS \gre_PC_SH_goldstandard|$

TA: 2:54 PAT: Off Voxel size: 1.1×1.1×5.0 mm Rel. SNR:			_	
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		311	
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	
ı	3 -	MSMA	S-C-T	
Routine		Sagittal	R >> L	
Slice group 1		Coronal	A >> P	
Slices	1	Transversal	F >> H	
Dist. factor	700 %	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	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	
Avaraging page	Ch out to man	Trigger pulse	1	
Averaging mode	Short term	Trigger delay	0 ms	
Reconstruction	Magnitude	Segments	1	
Measurements	1	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		
DAT mode	None	Subtract	Off	
PAT mode	None	Liver registration	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	
Elliptical filter	Off	MIP-Tra	Off	
		MIP-Time	Off	

Save original images

On

Geometry

Multi-slice mode

Sequential

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

Sequence

Ocquence	
Introduction Dimension Phase stabilisation Asymmetric echo	On 2D Off Off
Bandwidth	260 Hz/Px
Flow comp.	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

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

Properties		Special sat.	None
Prio Recon	Off	Table position	H
Before measurement	.	Table position	0 mm
After measurement		Inline Composing	Off
Load to viewer	On		
Inline movie	Off	System	
Auto store images	On	T1	On
Load to stamp segments	Off	M2	On
Load images to graphic	Off	B4	On
segments	Oli	M3	On
Auto open inline display	Off	V32	Off
Start measurement without	On	Positioning mode	REF
further preparation	0"	MSMA	S - C - T
Wait for user to start	Off	Sagittal	R >> L
Start measurements	single	Coronal	A >> P
Routine		Transversal	F >> H
Slice group 1		Coil Combine Mode	Sum of Squares
Slices	5	AutoAlign	
Dist. factor	800 %	Auto Coil Select	Default
Position	Isocenter	Shim mode	Standard
Orientation	Transversal		Off
Phase enc. dir.	A >> P	Adjust with body coil	_
		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	· ·	
I		Physio	
Contrast		1st Signal/Mode	None
MTC	Off	BOLD	
Flip angle	90 deg	GLM Statistics	On
Fat suppr.	Fat sat.	Dynamic t-maps	Off
Averaging mode	Long term	Starting ignore meas	0
Reconstruction	Magnitude		0
Measurements	20	Ignore after transition	
Delay in TR	0 ms	Model transition states	On
		Temp. highpass filter	On
Multiple series	Off	Threshold	4.00
Resolution		Paradigm size	20
Base resolution	128	- Meas[1]	Baseline
Phase resolution	100 %	Meas[2]	Baseline
Phase partial Fourier	Off	Meas[3]	Baseline
Interpolation	Off	Meas[4]	Baseline
	·····	Meas[5]	Baseline
PAT mode	GRAPPA	Meas[6]	Baseline
Accel. factor PE	3	Meas[7]	Baseline
Ref. lines PE	36	Meas[8]	Baseline
Reference scan mode	Separate	Meas[9]	Baseline
		Meas[10]	Baseline
Distortion Corr.	0"		
	Off	Meas[11]	Active
Prescan Normalize	Off	Meas[11] Meas[12]	Active Active
Prescan Normalize Raw filter	Off On	Meas[12]	Active
Prescan Normalize	Off	Meas[12] Meas[13]	Active Active
Prescan Normalize Raw filter	Off On	Meas[12] Meas[13] Meas[14]	Active Active Active
Prescan Normalize Raw filter Elliptical filter Hamming	Off On Off	Meas[12] Meas[13] Meas[14] Meas[15]	Active Active Active Active
Prescan Normalize Raw filter Elliptical filter Hamming Geometry	Off On Off Off	Meas[12] Meas[13] Meas[14] Meas[15] Meas[16]	Active Active Active Active Active Active
Prescan Normalize Raw filter Elliptical filter Hamming Geometry Multi-slice mode	Off On Off Off	Meas[12] Meas[13] Meas[14] Meas[15] Meas[16] Meas[17]	Active Active Active Active Active Active Active
Prescan Normalize Raw filter Elliptical filter Hamming Geometry	Off On Off Off	Meas[12] Meas[13] Meas[14] Meas[15] Meas[16]	Active Active Active Active Active Active

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

Sequence

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

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	1	311
Load images to graphic	Off	System	
segments		T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation	O.I.	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single	Desitioning mode	DEE
otal i mododi omonio	Sirigio	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	
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 TE	3.80 ms	Adjust volume	Auto
Averages	1	Position	laggantar
Concatenations	1		Isocenter
Filter	None	Orientation	Transversal
Coil elements	B4;M2,3;T1	Rotation	0.00 deg
Con elements	D+,\v\\2,5,11	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	Chart tar	Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	Resp. control	Oil
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
	J.,	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Image Filter		MIP-Time	Off
Distortion Corr.	Off	Save original images	On
Prescan Normalize	Off Off		
Normalize	Off Off	Wash - In	Off
B1 filter	Off Off	Wash - Out	Off
Raw filter	Off Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
1		į	

	MapIt Contrasts	None 1
ı	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\Feinberglab\Suhyung\SMVMS\gre_SMVMS_NonPhCy_res35_100

TA: 5.1 s PAT: Off Voxel size: 3.4×3.4×3.0 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	1	311
Load images to graphic	Off	System	
segments		T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation	O.I.	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single	Desitioning mode	DEE
otal i mododi omonio	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	
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 TE	3.80 ms	Adjust volume	Auto
Averages	1	Position	laggantar
Concatenations	1		Isocenter
Filter	None	Orientation	Transversal
Coil elements	B4;M2,3;T1	Rotation	0.00 deg
Con elements	D+,\v\\2,5,11	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	Chart tar	Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	Resp. control	Oil
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
	J.,	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Image Filter		MIP-Time	Off
Distortion Corr.	Off	Save original images	On
Prescan Normalize	Off Off		
Normalize	Off Off	Wash - In	Off
B1 filter	Off Off	Wash - Out	Off
Raw filter	Off Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
1		į	

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

TA: 5.1 s PAT: Off Voxel size: 3.4×3.4×3.0 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	1	311
Load images to graphic	Off	System	
segments		T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation	O.I.	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single	Desitioning mode	DEE
otal i mododi omonio	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	
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 TE	3.80 ms	Adjust volume	Auto
Averages	1	Position	laggantar
Concatenations	1		Isocenter
Filter	None	Orientation	Transversal
Coil elements	B4;M2,3;T1	Rotation	0.00 deg
Con elements	D+,\v\\2,5,11	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	Chart tar	Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	Resp. control	Oil
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
	J.,	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Image Filter		MIP-Time	Off
Distortion Corr.	Off	Save original images	On
Prescan Normalize	Off Off		
Normalize	Off Off	Wash - In	Off
B1 filter	Off Off	Wash - Out	Off
Raw filter	Off Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
1		į	

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

	Ciriborgiab (Carry arig (Civi v Ivic	s\gre_SMVMS_NonPhCy_	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
roperties		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
outine		MSMA	S - C - T
		Sagittal	R >> L
Slice group 1 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	·
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0.00 deg 0 %		<u>-</u>
FoV read	220 mm	Shim mode	Tune up
FoV phase	100.0 %	Adjust with body coil	Off
Slice thickness	3.0 mm	Confirm freq. adjustment	Off
TR 1	14.0 ms	Assume Silicone	Off
TR 2	3.5 ms	? Ref. amplitude 1H	0.000 V
TE	3.80 ms	Adjustment Tolerance	Auto
Averages	1	Adjust volume	la a a a su ta u
Concatenations	1	Position	Isocenter
Filter	None	Orientation	Transversal
Coil elements	B4;M2,3;T1	Rotation	0.00 deg
	□ 1,1V1⊆, ∪, 1 1	R >> L	350 mm
ontrast		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		N
SWI	Off	Tagging	None O#
Averaging mode	Short term	Dark blood	Off
Averaging mode	Magnitude	Resp. control	Off

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		MSMA	S - C - T
		Sagittal	R >> L
Slice group 1	4	Coronal	A >> P
Slices	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	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
		I	
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
Deselution		Liver registration	Off
Resolution		Std-Dev-Sag	Off
Base resolution	96	Std-Dev-Gag Std-Dev-Cor	Off
Phase resolution	100 %	Std-Dev-Col	Off
Phase partial Fourier	Off	Std-Dev-Tra Std-Dev-Time	Off
Interpolation	Off	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
		··· MIP-Tra	Off
Image Filter	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
1		MIP - time	Off
Geometry	lated a const		J.,
Multi-slice mode	Interleaved		
		21/+	

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\Feinberglab\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		Oll
Load images to graphic	Off	System	
segments	O.I.	T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation	On	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single		
Start measurements	Sirigie	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	
Rotation	0.00 deg	Auto Coil Select	Default
Phase oversampling	0.00 deg 0 %	Ol: !	T
FoV read	220 mm	Shim mode	Tune up
FoV phase	100.0 %	Adjust with body coil	Off
•		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	——	350 mm
Magn. preparation	None	Di :	
Flip angle		Physio	
	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	· ·	
Multiple series	Each measurement	Inline	
	Lati incasarement	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
		···· MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
Image Filter Distortion Corr.	Off	MIP-Time	Off
Prescan Normalize		Save original images	On
	Off Off		
Normalize	Off Off	Wash - In	Off
B1 filter	Off Off	Wash - Out	Off
Raw filter	Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
Width Shoe Hidde	michicavea	22/	

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\Fe	einberglab\Suhyung\SMVMS	S\gre_SMVMS_No	onPhCy_res23_110
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		<u>-</u>	
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	System 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	
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		Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	1	Jii
Measurements Multiple series	1 Fach maggurament	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
Phase partial Fourier	Off	Std-Dev-Tra	Off
Interpolation	Off	Std-Dev-Time	Off
	None	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
1		MIP - time	Off
		I WIII - UITIG	
Geometry 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

\\USER\Feinberglab\Suhyung\SMVMS\		s\gre_SMVMS_No	onPhCy_res17_000	
TA: 87s	PAT: Off	Voxel size: 1.7x1.7x3.0 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		5
Load images to graphic	Off	System	
segments		T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation	3	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single	Destriction of the second	DEE
Ctart measurements	Sirigic	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	
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 %		Off
Slice thickness	3.0 mm	Confirm freq. adjustment	
TR 1	14.0 ms	Assume Silicone	Off
TR 2	3.5 ms	? Ref. amplitude 1H	0.000 V
TE	3.80 ms	Adjustment Tolerance	Auto
	1	Adjust volume	
Averages 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	—— F >> H	350 mm
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr.	None	Segments	
SWI	Off	Tagging	None
	<u> </u>	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-Sag Std-Dev-Cor	Off
Phase resolution	100 %	Std-Dev-Cor Std-Dev-Tra	
Phase partial Fourier	Off		Off Off
Interpolation	Off	Std-Dev-Time	Off
PAT mode	None	MIP-Sag	Off
		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
1	-		
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 Off Off Off

\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ON // // ON // DIO 47 400
\\USER\Feinberglab\Suhvung\SMVMS\gre	SMIVING NonPhCV res1/ 100

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	
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	rato
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	None
Fat suppr. Water suppr.	None None	Segments	1
SWI	Off	Tagging	None
	OII	Dark blood	Off
Averaging mode	Short term		
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		O#
B1 filter	Off	Wash - In	Off
Raw filter	Off	Wash - Out	Off
Elliptical filter	Off	TTP	Off
	Oil	PEI MID 4im a	Off
_		l MIP - time	Off
Geometry Multi-slice mode			

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\Feinbe	erglab\Suhyung\SMVMS	S\gre_SMVMS_I	NonPhCy_res	17_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	1	311
Load images to graphic	Off	System	
segments		T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation	O.I.	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single	Desitioning mode	DEE
otal induction on o	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	
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 TE	3.80 ms	Adjust volume	Auto
Averages	1	Position	laggantar
Concatenations	1		Isocenter
Filter	None	Orientation	Transversal
Coil elements	B4;M2,3;T1	Rotation	0.00 deg
Con elements	D+,\v\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	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	Chart tar	Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	Resp. control	Oil
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
	J.,	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
		MIP-Time	Off
Distortion Corr.	Off	Save original images	On
Prescan Normalize	Off Off		
Normalize	Off Off	Wash - In	Off
B1 filter	Off Off	Wash - Out	Off
Raw filter	Off Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
1		į	

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\Feinberglab\\$	Suhyung\SMVMS\gre_	.SMVMS_NonPhCy	_res17_001
•		•	

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	1	311
Load images to graphic	Off	System	
segments		T1	On
Auto open inline display	Off	M2	On
Start measurement without	On	B4	On
further preparation	O.I.	M3	On
Wait for user to start	Off	V32	Off
Start measurements	single	Desitioning mode	DEE
otal inducation on to	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	
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 TE	3.80 ms	Adjust volume	Auto
Averages	1	Position	laggantar
Concatenations	1		Isocenter
Filter	None	Orientation	Transversal
Coil elements	B4;M2,3;T1	Rotation	0.00 deg
Con elements	D4,1V12,3,11	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	Charttan	Dark blood	Off
Averaging mode	Short term	Resp. control	Off
Reconstruction	Magnitude	Resp. control	Oil
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
	J.,	MIP-Sag	Off
PAT mode	None	MIP-Cor	Off
Image Filter	Off	MIP-Tra	Off
		MIP-Time	Off
Distortion Corr.	Off	Save original images	On
Prescan Normalize	Off Off		
Normalize	Off Off	Wash - In	Off
B1 filter	Off Off	Wash - Out	Off
Raw filter	Off Off	TTP	Off
Elliptical filter	Off	PEI	Off
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
1		į	

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\Suhyung\SMVMS	S\gre_SMVMS_No	nPhCy_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	Off	V32	Off
Wait for user to start Start measurements	single		
Start measurements	Sirigle	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 Off
Position	Isocenter	Save uncombined Coil Combine Mode	Adaptive Combine
Orientation	Transversal	AutoAlign	
Phase enc. dir.	A >> P	Auto Coil Select	Default
Rotation	0.00 deg	Auto Ooii Oelect	
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 3.80 ms	Adjustment Tolerance	Auto
Averages	3.60 HIS 1	Adjust volume	
Concatenations	1	Position	Isocenter
Filter	None	Orientation	Transversal
Coil elements	B4;M2,3;T1	Rotation	0.00 deg 350 mm
1	51,1112,0,11	R >> L A >> P	263 mm
Contrast		— A >> F — F >> H	350 mm
MTC	Off	1 >> 11	330 11111
Magn. preparation	None	Physio	
Flip angle	14 deg	1st Signal/Mode	None
Fat suppr.	None	Segments	1
Water suppr. SWI	None Off	Tagging	None
3001		Dark blood	Off
Averaging mode	Short term		
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
Geometry		MIP - time	Off
Multi-slice mode	Interleaved		
Walti-Silve Houe	Intelleaved	25/-	

	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

Table of contents

```
Feinberglab
       Suhyung
               SMVMS
                      gre_PC_SH_goldstandard
                      localizer_100V_newcoil
                      localizer_100V_newcoil_Calibration
                      gre_SMVMS
                      gre_SMVMS_IPAT2
                      gre_PC_SH_goldstandard
                      ep2d_bold_SliceAcc_770B
                      gre_SMVMS_NonPhCy_res35_000
                      gre_SMVMS_NonPhCy_res35_100
                      gre_SMVMS_NonPhCy_res35_110
                      gre_SMVMS_NonPhCy_res23_000
                      gre_SMVMS_NonPhCy_res23_100
                      gre_SMVMS_NonPhCy_res23_110
                      gre_SMVMS_NonPhCy_res17_000
                      gre_SMVMS_NonPhCy_res17_100
                      gre_SMVMS_NonPhCy_res17_110
                      gre_SMVMS_NonPhCy_res17_001
                      gre_SMVMS_NonPhCy_res17_101
                      gre_SMVMS_NonPhCy_res17_111
              b-SMS
                      gre_PC_SH_calibration
                      gre_PC_SH_mb5_fov3
                      gre_PC_SH_mb5_fov3_pi3_rand
                      gre_PC_SH_mb5_fov3_pi4_rand
                      ep2d_bold_SliceAcc_770B
              SMS EPI
                      localizer_50V_newcoil
                      AV_ep2d_bold_sd1ipat3mb4_pt75mm_tSNR_shimWholeVol
                      AV_ep2d_bold_sd1ipat3mb5_pt75mm_tSNR_shimWholeVol
                      AV_ep2d_bold_sd1ipat3mb6_pt75mm_tSNR_shimWholeVol
              GRASE
                      localizer_50V_newcoil
                      grase3d_reference
                      grase3d cs_SH
                      grase3d_cspf_SH
                      grase3d_cs_ms_SH
                      grase3d_cspf_ms_SH
                      grase3d_reference_res15
                      grase3d_cspf_ms_res15_SH
              GRASE IV
                      localizer_200V_nova
                      b1map_200V_TR1000_nova
                      Visual Cortex
                      measure point spread functions
                      BP_grase_clean_IV_Regular_PSF_Par8_SH
                      BP_grase_clean_IV_Regular_PSF_Par20_SH
                      BP_grase_clean_IV_VFL_PSF_SH
                      BP_grase_clean_IV_CS1D_Par20_NonSFL_PSF_SH
                      BP_grase_clean_IV_CS2D_Par20_NonSFL_PSF_SH
                      resolution: iso-0.8mm3
                      BP_grase_clean_IV_TE37_Regular_SH
                      BP_grase_clean_IV_TE37_VFL_SH
                      BP grase clean IV TE37 Par20 STE SH
                      BP_grase_clean_IV_TE27_Par20_STE_SH
                      2D MultiContrast GRASE for T2 Map
                      BP_grase_clean_IV_Regular_MC_CGR_FA180
                      BP_grase_clean_IV_Regular_MC_VGR_FA180
                      BP_grase_clean_IV_Regular_MC_CGR_FA140
                      BP_grase_clean_IV_Regular_MC_VGR_FA140
                      Comparisons: STE vs. nSTE
```

```
Feinberglab
       Suhyung
               GRASE_IV
                      BP_grase_clean_IV_TE41_FA180_Regular_CGR
                      BP_grase_clean_IV_TE41_FA180_Regular_VGR
                      BP_grase_clean_IV_FA_TE32_FA180_CS_CGR
                      BP_grase_clean_IV_FA_TE32_FA180_CS_VGR
                      BP grase clean IV TE41 FA140 Regular CGR
                      BP_grase_clean_IV_TE41_FA180_Regular_VGR
                      BP_grase_clean_IV_TE41_FA140_Regular_VGR
                      for tSNR Test
                      BP_grase_clean_IV_TE32_FA180_CS_CGR
                      BP_grase_clean_IV_TE32_FA180_CS_CGR
                      BP_grase_clean_IV_FA_TE32_FA180_CS_CGR
                      AV_ep2d_bold_sd1ipat2mb1_1mm_tSNR_32
                      AV_ep2d_bold_sd1ipat2mb1_p8mm_tSNR_32
                      cmrr_mbep2d_se
                      --M1 STE--
                      BP_grase_clean_IV_TE37_STE_Regular_SH
                      BP grase clean IV TE37 nSTE Regular SH
                      BP_grase_clean_IV_TE27_Par20_STE_SH
                      BP_grase_clean_IV_TE27_Par20_nSTE_SH
                      --- for nSTE Test
                      BP_grase_clean_IV_FA180_Regular_SH
                      BP_grase_clean_IV_FA180_nSTE_CurrentPT_SH
                      BP_grase_clean_IV_FA140_Regular_SH
                      BP_grase_clean_IV_FA140_nSTE_CurrentPT_SH
                      BP_grase_clean_IV_FA160_Regular_SH
                      BP_grase_clean_IV_FA160_nSTE_CurrentPT_SH
                      Pause
                      Motor Cortex
                      BP_grase_clean_IV_Reg_ForComparison
                      BP_grase_clean_IV_Reg_nSTE_T2Map
                      BP_grase_clean_IV_Reg
                      BP_grase_clean_IV_Reg_nSTE
                      BP_grase_clean_IV_Reg_VFA
                      BP_grase_clean_IV_Reg_nSTE_VFA
                      BP_grase_clean_IV_CSv1
                      BP_grase_clean_IV_CSv1_nSTE
                      Motor Cortex for PSF
                      BP_grase_clean_IV_Reg_PSF_20slc
                      BP_grase_clean_IV_Reg_PSF
                      BP_grase_clean_IV_Reg_VFA_PSF
                      BP_grase_clean_IV_CSv1_PSF
                      BP_grase_clean_IV_Rand_SH
              GRASE_IV_TSNR
                      resolution: iso-0.8mm3
                      BP_grase_clean_IV_TE41_PF6/8_Res08_SH
                      BP_grase_clean_IV_TE41_PF6/8_Res08_VFA_SH
                      BP_grase_clean_IV_TE41_PF6/8_Res08_VFA_SH
                      BP_grase_clean_IV_CS_TE41_PF6/8_Res08_SH
                      BP_grase_clean_IV_CS_TE35_PF6/8_Res08_SH
                      BP_grase_clean_IV_CS_TE38_PF6/8_Res08_fov48_SH
                      pgrs3d_ey_20180816_p8mm
              CS-M1
                      BP_grase_clean_IV_Regular_SH_ob
                      BP\_grase\_clean\_IV\_CS2D\_Par20\_NonSFL\_SH\_Ob
                      --time permitting--
                      BP_grase_clean_VASO_V10t_noClip
                      BP_grase_clean_IV_Regular_TE43_SH_TR3000
                      --02/18--
```

```
Feinberglab
       Suhyung
               CS-M1
                      BP_grase_clean_IV_Regular_SH_dblOb
                      BP_grase_clean_IV_CS2D_Par20_NonSFL_SH_dblOb
              GRASE_IV_CS_GRASE
                      localizer_200V_nova
                      t1_mpr_sag_p9mm_iso
                      b1map_200V_TR1000_nova
                      mp2rage_0.8mmiso_TR4500
                      ----- For STE vs nSTE
                      BP_grase_IV_Regular
                      BP_grase_IV_Regular_nSTE
                      BP_grase_IV_Regular
                      BP_grase_IV_Regular_nSTE
                      BP_grase_IV_Regular_nSTE_T2map_ICEoff
                      se_mc
                      ----- For Point Spread Functions -----
                      BP_grase_IV_Regular
                      BP_grase_IV_VFA
                      BP_grase_IV_CS_CFA_SL18_ETL06
                      BP_grase_IV_CS_VFA_SL24_ETL10
                      BP_grase_IV_CS_VFA_SL36_ETL14
                      ----- For Visual Cortex -----
                      BP_grase_IV_Regular
                      BP_grase_IV_VFA
                      BP_grase_IV_CS_CFA_SL18_ETL06
                      BP_grase_IV_CS_VFA_SL24_ETL10
                      BP_grase_IV_CS_VFA_SL36_ETL14
                      BP_grase_IV_CS_VFA_SL48_ETL14
                       -----For Motor Cortex ----
                      BP_grase_IV_Regular
                      BP_grase_IV_VFA
                      BP_grase_IV_CS_CFA_SL18_ETL06
                      BP_grase_IV_CS_VFA_SL24_ETL10
                      BP_grase_IV_CS_VFA_SL36_ETL14
                      ----- For STG ------
                      BP_grase_IV_CS_VFA_SL36_TE22
                      BP_grase_IV_CS_VFA_SL36_TE27
                      For 3D EPI
                      BP_ep3D_bold_CAIPI_ICEoff_ChannelM2
                      BP ep3D bold multiecho new SH CAIPI noICE
                      - For Motor Cortex: turn off phase encode
                      -----Point Spread Function for Alex- turn off phase encode
                      BP_grase_clean_VASO_V10t_noClip
                      VASO_116_phantom
                      Enhance Tissue Contrast For Sam
                      BP_grase_IV_CS_VFA_SL36_ETL14_TE22_TR12
                      BP grase IV CS VFA SL36 ETL14 TE22 TR20
                      -----3DEPI CAIPI: turn on phase encode, ice off for last
                      GE_p8mm_MB1IPAT3_pf6_te23_tr1505_sat_PIFrSn_391i
                      BP_ep3D_bold_multiecho_new_SH_noCAIPI
              GRASE VASO w/ CS
                      BP_grase_IV_Regular_VASO_SH
                      BP_GRASE_VASO_Short
                      BP_GRASE_VASO_Long
                      BP_GRASE_VASO_BloodNull_IR100ms
                      BP_GRASE_VASO_BloodNull_IR200ms
                      BP_grase_IV_VFA_VASO_SH
                      BP_grase_IV_CS_VASO_SH_24SL
                      BP_grase_IV_CS_VFA_VASO_GMS_SH
                      BP_grase_IV_CS_VASO_SH
```

```
Feinberglab
       Suhyung
              GRASE w/ CS
                     localizer_200V_nova
                     For Effect of VFA Schemes
                     BP_grase_IV_CS_VFA_24SL
                     BP_grase_IV_CS_VFA_24SL
                     BP_grase_IV_CS_VFA_24SL
                     BP_grase_IV_CS_CFA_24SL
                     BP_grase_IV_CS_VFA_36SL
                     BP_grase_IV_CS_VFA_36SL
                     BP_grase_IV_CS_VFA_36SL
                     BP_grase_IV_CS_CFA_36SL
                     For Comparisons with Current Techinques in M1
                     For_SetupFOV_36Slices
                     BP_grase_IV_Regular
                     BP_grase_IV_VFA
                     BP_GRASE_CS_VFA_24SL
                     BP_GRASE_CS_VFA_36SL
                     BP_GRASE_CS_CFA_18SL
                     BP_GRASE_Regular
                     For STG Functional Data
                     BP_grase_IV_Regular
                     BP_GRASE_CS_CFA_22SL_0.8mm
                     BP_GRASE_CS_CFA_22SL_1.0mm
                     BP_GRASE_CS_CFA_22SL_1.2mm
                     BP_GRASE_CS_VFA_36SL_1.2mm
                     --flipped PE dir--
                     BP_grase_IV_Regular_PA
                     BP_grase_IV_VFA_PA
                     BP_GRASE_CS_CFA_18SL_PA
                     BP_GRASE_CS_VFA_24SL_PA
                     BP_GRASE_CS_VFA_36SL_PA
                     BP_GRASE_CS_VFA_36SL
                     BP GRASE CS VFA 36SL
                     BP_GRASE_CS_VFA_36SL
              GRASE w/ CS for STG
                     BP_RGRASE_24SL_1.0mm
                     BP_AccVGRASE_CFA_24SL_1.0mm_EPI20
                     BP_AccVGRASE_CFA_24SL_1.0mm_EPI16
                     BP_AccVGRASE_24SL_1.0mm_EPI20
                     BP_AccVGRASE_24SL_1.0mm_EPI16
                     BP_AccVGRASE_24SL_1.0mm_EPI20_RefDuration2560
                     BP_AccVGRASE_36SL_1.0mm_EPI20
                     BP_AccVGRASE_36SL_0.8mm
                     Functional Acquisitions
                     BP_AccCGRASE_24SL_1.0mm_TE23ms
                     BP_AccVGRASE_24SL_1.0mm_TE23ms
                     BP_AccVGRASE_24SL_1.0mm_TE21ms
                     BP_AccVGRASE_36SL_1.0mm_TE23ms
                     Outer Volume Suppressions
                     ep2d_M1P2f1_iso150
                     ep2d_venc_ms_sbmb_SAT_flashref
                     ep2d_venc_ms_sbmb_SAT_flashref_SH
```