\\USER\Feinberglab\Suhyung\GRASE\_IV\_TSNR\BP\_grase\_clean\_IV\_TE41\_PF6/8\_Res08\_SH TA: 0:00 PAT: Off Voxel size: 0.8×0.8×1.0 mm Rel. SNR: 1.00 USER: BP\_grase\_clean\_IV\_SH

Droportion		Pause after meas. 20	0 s
Properties Prio Recon	Off	Pause after meas. 21	0 s
Before measurement	Oli	Pause after meas. 22	0 s
After measurement		Pause after meas. 23	0 s
Load to viewer	On	Pause after meas. 24	0 s
Inline movie	Off	Pause after meas. 25	0 s
	On	Pause after meas. 26	0 s
Auto store images	-	Pause after meas. 27	0 s
Load to stamp segments	Off	Pause after meas. 28	0 s
Load images to graphic	Off	Pause after meas. 29	0 s
segments	0"	Pause after meas. 30	0 s
Auto open inline display	Off	Pause after meas. 31	0 s
Start measurement without	On	Pause after meas. 32	0 s
further preparation	0"	Pause after meas. 33	0 s
Wait for user to start	Off	Pause after meas. 34	0 s
Start measurements	single	Pause after meas. 35	0 s
Routine		Pause after meas. 36	0 s
Slab group 1		Pause after meas, 37	0 s
Slabs	1	Pause after meas, 38	0 s
Dist. factor	0 %	Pause after meas. 39	0 s
Position	Isocenter	Pause after meas. 40	0 s
Orientation	Transversal	Pause after meas. 41	0 s
Phase enc. dir.	A >> P	Pause after meas. 42	0 s
		Pause after meas. 43	0 s
Rotation	0 deg	Pause after meas. 44	0 s
Phase oversampling	0 %	Pause after meas, 45	0 s
Slice oversampling	0.0 %	Pause after meas. 46	0 s
Slices per slab	8		
FoV read	108 mm	Pause after meas. 47	0 s
FoV phase	25.0 %	Multiple series	Off
Slice thickness	1 mm	Resolution	
TR	3000 ms	Base resolution	128
TE	41.14 ms	Phase resolution	100 %
Averages	1	Slice resolution	100 %
Concatenations	1	Slice partial Fourier	6/8
Filter	None	Interpolation	Off
Coil elements	B4;M2,3;T1		
Contrast		PAT mode	None
Magn. preparation	None	Prescan Normalize	Off
Flip angle	180 deg	Raw filter	Off
Fat suppr.	Fat sat.		<b></b>
Fat sat. mode	Strong	Geometry	
		Series	Interleaved
Averaging mode	Long term	Sat. region 1	
Reconstruction	Magnitude	Thickness	28 mm
Measurements	48	Position	Isocenter
Pause after meas. 1	0 s	Orientation	Coronal
Pause after meas. 2	0 s	Special sat.	None
Pause after meas. 3	0 s	······	140110
Pause after meas. 4	0 s	Table position	Н
Pause after meas. 5	0 s	Table position	0 mm
Pause after meas. 6	0 s	Inline Composing	Off
Pause after meas. 7	0 s	'	
Pause after meas. 8	0 s	System	0.7
Pause after meas. 9	0 s	T1	On
Pause after meas. 10	0 s	M2	On
Pause after meas. 11	0 s	B4	On
Pause after meas. 12	0 s	M3	On
Pause after meas. 13	0 s	V32	Off
Pause after meas. 14	0 s	Positioning mode	REF
Pause after meas. 15	0 s	MSMA	S-C-T
Pause after meas. 16	0 s		R >> L
Pause after meas. 17	0 s	Sagittal Coronal	K >> L A >> P
Pause after meas. 18	0 s	Coronal Transversal	A >> P F >> H
Pause after meas. 19	0 s		
1 4400 41101 111040. 10		Save uncombined	Off
		1/9	

Coil Combine Mode AutoAlign Auto Coil Select  Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H Adjustment Tolerance Adjust volume Position Orientation Rotation R >> L A >> P	Adaptive Combine Default  Standard Off Off Off 0.000 V Auto  Isocenter Transversal 0.00 deg 108 mm 27 mm
F >> H	8 mm
Physio 1st Signal/Mode	None
Composing	
Sequence	
Introduction Dimension Reordering Contrasts Bandwidth	Off 3D Centric 1 1148 Hz/Px
Turbo factor EPI factor RF pulse type Gradient mode	6 128 Normal Fast
refocussing type flip angle excit phase encoding Maxwell compensation ICE program prepscans excite duration refoc duration excite BWTP refoc BWTP Opposite Polarity Crusher pre-crusher post-crusher1 post-crusher2 post-crusher4	sinc 2560 90 ON Off single 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

\\USER\Feinberglab\Suhyung\GRASE\_IV\_TSNR\BP\_grase\_clean\_IV\_TE41\_PF6/8\_Res08\_VFA\_SH TA: 0:00 PAT: Off Voxel size: 0.8×0.8×1.0 mm Rel. SNR: 1.00 USER: BP\_grase\_clean\_IV\_SH

Properties		Pause after meas. 20	0 s
Properties Prio Recon	Off	— Pause after meas. 21	0 s
Before measurement	Oil	Pause after meas. 22	0 s
		Pause after meas. 23	0 s
After measurement Load to viewer	On	Pause after meas. 24	0 s
	Off	Pause after meas. 25	0 s
Inline movie		Pause after meas. 26	0 s
Auto store images	On Off	Pause after meas. 27	0 s
Load to stamp segments	Off	Pause after meas. 28	0 s
Load images to graphic	Off	Pause after meas. 29	0 s
segments	0"	Pause after meas. 30	0 s
Auto open inline display	Off	Pause after meas. 31	0 s
Start measurement without	On	Pause after meas. 32	0 s
further preparation	~"	Pause after meas, 33	0 s
Wait for user to start	Off	Pause after meas, 34	0 s
Start measurements	single	Pause after meas, 35	0 s
Routine		Pause after meas. 36	0 s
Slab group 1		Pause after meas. 37	0 s
Slabs	1	Pause after meas. 38	0 s
Dist. factor	0 %	Pause after meas. 39	0 s
Position	Isocenter	Pause after meas. 40	0 s
Orientation	Transversal	Pause after meas. 41	0 s
Phase enc. dir.	A >> P	Pause after meas. 42	0 s
Rotation	0 deg	Pause after meas, 43	0 s
Phase oversampling	0 %	Pause after meas. 44	0 s
Slice oversampling	0.0 %	Pause after meas. 45	0 s
Slices per slab	8	Pause after meas. 46	0 s
FoV read	108 mm	Pause after meas. 47	0 s
	25.0 %	Multiple series	Off
FoV phase Slice thickness		Widitiple Selles	Oli
	1 mm	Resolution	
TR	3000 ms	Base resolution	128
TE	41.14 ms	Phase resolution	100 %
Averages	1	Slice resolution	100 %
Concatenations	1	Slice partial Fourier	6/8
Filter	None	Interpolation	Off
Coil elements	B4;M2,3;T1		NI
Contrast		PAT mode	None
Magn. preparation	None	Prescan Normalize	Off
Flip angle	180 deg	Raw filter	Off
Fat suppr.	Fat sat.	Geometry	
Fat sat. mode	Strong	Series	Interleaved
Averaging mode	Long term		·····
Reconstruction	Magnitude	Sat. region 1	
Measurements	48	Thickness	28 mm
Pause after meas. 1	0 s	Position	Isocenter
Pause after meas. 2	0 s	Orientation	Coronal
Pause after meas. 3	0 s	Special sat.	None
Pause after meas. 4	0 s	Toble position	 П
Pause after meas. 5	0 s	Table position	H
Pause after meas. 6	0 s	Table position	0 mm
Pause after meas. 7	0 s 0 s	Inline Composing	Off
		System	
Pause after meas. 8	0 s	T1	On
Pause after meas. 9	0 s	M2	On
Pause after meas. 10	0 s	B4	On
Pause after meas. 11	0 s	M3	On
Pause after meas. 12	0 s	V32	Off
Pause after meas. 13	0 s	v 02	
Pause after meas. 14	0 s	Positioning mode	REF
Pause after meas. 15	0 s	MSMA	S - C - T
Pause after meas. 16	0 s	Sagittal	R >> L
Pause after meas. 17	0 s	Coronal	A >> P
Pause after meas. 18	0 s	Transversal	F >> H
Pause after meas. 19	0 s	Save uncombined	Off
•		3/9	

Coil Combine Mode AutoAlign Auto Coil Select  Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H Adjustment Tolerance Adjust volume Position Orientation Rotation R >> L A >> P	Adaptive Combine Default  Standard Off Off Off 0,000 V Auto  Isocenter Transversal 0.00 deg 108 mm 27 mm
F >> H	8 mm
Physio 1st Signal/Mode	None
Composing	
Sequence	
Introduction Dimension Reordering Contrasts Bandwidth	Off 3D Centric 1 1148 Hz/Px
Turbo factor EPI factor RF pulse type Gradient mode	6 128 Normal Fast
refocussing type flip angle excit phase encoding Maxwell compensation ICE program prepscans excite duration refoc duration excite BWTP refoc BWTP Opposite Polarity Crusher pre-crusher post-crusher1 post-crusher2 post-crusher3 post-crusher4	variable sinc 90 ON Off single 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

\\USER\Feinberglab\Suhyung\GRASE\_IV\_TSNR\BP\_grase\_clean\_IV\_TE41\_PF6/8\_Res08\_VFA\_SH TA: 0:00 PAT: Off Voxel size: 0.8×0.8×1.0 mm Rel. SNR: 1.00 USER: BP\_grase\_clean\_IV\_SH

Properties		Pause after meas. 20	0 s
Properties Prio Recon	Off	— Pause after meas. 21	0 s
Before measurement	Oii	Pause after meas. 22	0 s
After measurement		Pause after meas. 23	0 s
Load to viewer	On	Pause after meas. 24	0 s
Inline movie	Off	Pause after meas. 25	0 s
Auto store images	On	Pause after meas. 26	0 s
Load to stamp segments	Off	Pause after meas. 27	0 s
Load images to graphic	Off	Pause after meas. 28	0 s
segments	OII	Pause after meas. 29	0 s
Auto open inline display	Off	Pause after meas. 30	0 s
Start measurement without	On	Pause after meas. 31	0 s
further preparation	Oli	Pause after meas. 32	0 s
Wait for user to start	Off	Pause after meas. 33	0 s
Start measurements	single	Pause after meas. 34	0 s
Otan measurements	Single	Pause after meas. 35	0 s
Routine		Pause after meas. 36	0 s
Slab group 1		Pause after meas. 37	0 s
Slabs	1	Pause after meas. 38	0 s
Dist. factor	0 %	Pause after meas. 39	0 s
Position	Isocenter	Pause after meas. 40	0 s
Orientation	Transversal	Pause after meas. 41	0 s
Phase enc. dir.	A >> P	Pause after meas. 42	0 s
Rotation	0 deg	Pause after meas. 43	0 s
Phase oversampling	0 %	Pause after meas. 44	0 s
Slice oversampling	0.0 %	Pause after meas. 45	0 s
Slices per slab	28	Pause after meas. 46	0 s
FoV read	108 mm	Pause after meas. 47	0 s
FoV phase	25.0 %	Multiple series	Off
Slice thickness	1 mm	Resolution	
TR	3000 ms	Base resolution	128
TE	41.14 ms	Phase resolution	100 %
Averages	1	Slice resolution	100 %
Concatenations	1		
Filter	None	Slice partial Fourier	5/8 Off
Coil elements	B4;M2,3;T1	Interpolation	
Contrast		PAT mode	None
Magn. preparation	None	Prescan Normalize	Off
Flip angle	180 deg	Raw filter	Off
Fat suppr.	Fat sat.		-
Fat sat. mode	Strong	Geometry	
Averaging mode	Long term	Series	Interleaved
Reconstruction	Magnitude	Sat. region 1	
Measurements	48	Thickness	28 mm
Pause after meas. 1	0 s	Position	Isocenter
Pause after meas. 2	0 s	Orientation	Coronal
Pause after meas. 3	0 s	Special sat.	None
Pause after meas. 4	0 s	Table position	Н
Pause after meas. 5	0 s	Table position	0 mm
Pause after meas. 6	0 s	Inline Composing	Off
Pause after meas. 7	0 s	,	On
Pause after meas. 8	0 s	System	
Pause after meas. 9	0 s	T1	On
Pause after meas. 10	0 s	M2	On
Pause after meas. 11	0 s	B4	On
Pause after meas. 12	0 s	M3	On
Pause after meas. 13	0 s	V32	Off
Pause after meas. 14	0 s	Positioning mode	REF
Pause after meas. 15	0 s	Positioning mode MSMA	S-C-T
Pause after meas. 16	0 s		S - C - 1 R >> L
Pause after meas. 17	0 s	Sagittal Coronal	R >> L A >> P
Pause after meas. 18	0 s	Transversal	A >> P F >> H
Pause after meas. 19	0 s	Save uncombined	F >> FI Off
1	- <del>-</del>		Oii
		5/9	

Coil Combine Mode	Adaptive Combine
AutoAlign Auto Coil Select	Default
Shim mode Adjust with body coil Confirm freq. adjustment Assume Silicone ? Ref. amplitude 1H Adjustment Tolerance Adjust volume Position Orientation Rotation R >> L	Standard Off Off Off Off 0.000 V Auto Isocenter Transversal 0.00 deg 108 mm
A >> P	27 mm
F >> H	28 mm
Physio 1st Signal/Mode	None
Composing	
Sequence	
Introduction Dimension Reordering Contrasts Bandwidth	Off 3D Centric 1 1148 Hz/Px
Turbo factor EPI factor RF pulse type Gradient mode	18 128 Normal Fast
refocussing type flip angle excit phase encoding Maxwell compensation ICE program prepscans excite duration refoc duration excite BWTP refoc BWTP Opposite Polarity Crusher pre-crusher post-crusher1 post-crusher2 post-crusher4	variable sinc > 20 90 ON Off single 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

 $\verb|\USER\Feinberg| lab| Suhyung \\ | GRASE_IV_TSNR \\ | pgrs3d_ey_20180816_p8mm \\ | Property \\ |$ 

USER: pgrs3d\_ey\_20180816

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

TA: 2:24

., 2.2 1 1, (1. 0.1	V 0.001 3120. 0.000.000.0 111111	101. 01110. 1.00	
<b>.</b>		Pause after meas. 2	11 0.0 s
Properties		Pause after meas. 2	
Prio Recon	Off	Pause after meas. 2	
Before measurement			
After measurement		Pause after meas. 2	
Load to viewer	On	Pause after meas. 2	
Inline movie	Off	Pause after meas. 2	
Auto store images	On	Pause after meas. 2	
Load to stamp segments	Off	Pause after meas. 2	
		Pause after meas. 2	9 0.0 s
Load images to graphic	Off	Pause after meas. 3	0.0 s
segments		Pause after meas. 3	1 0.0 s
Auto open inline display	Off	Pause after meas. 3	
Start measurement without	On	Pause after meas, 3	
further preparation		Pause after meas. 3	
Wait for user to start	Off	Pause after meas. 3	
Start measurements	single	Pause after meas. 3	
Б. <i>і</i> :			
Routine		Pause after meas. 3	
Slab group 1		Pause after meas. 3	
Slabs	1	Pause after meas. 3	
Dist. factor	0 %	Pause after meas. 4	
Position	L2.0 P85.7 H0.0	Pause after meas. 4	1 0.0 s
Orientation	Transversal	Pause after meas. 4	2 0.0 s
Phase enc. dir.	A >> P	Pause after meas. 4	
Rotation	0.00 deg	Pause after meas. 4	
Phase oversampling	0.00 deg 0 %	Pause after meas. 4	
. •		Pause after meas. 4	
Slice oversampling	0.0 %		
Slices per slab	8	Pause after meas. 4	
FoV read	108 mm	Multiple series	Off
FoV phase	25.0 %	Resolution	
Slice thickness	0.80 mm	Base resolution	128
TR	3000 ms		100 %
TE	39.32 ms	Phase resolution	
Averages	1	Slice resolution	100 %
Concatenations	1	Slice partial Fourier	6/8
Filter	None	Interpolation	Off
		DAT mode	
Coil elements	B1-8	PAT mode	None
Contrast		Raw filter	Off
Flip angle 1	90 deg	Geometry	
Flip angle 2	180 deg	<u>-</u>	A seconding
Fat suppr.	Fat sat.	Series	Ascending
		Sat. region 1	
Averaging mode	Long term	Thickness	28 mm
Reconstruction	Magnitude		
Measurements	48	Position	L2.0 P85.7 H0.0
Pause after meas. 1	0.0 s	Orientation	Coronal
Pause after meas. 2	0.0 s	Special sat.	None
Pause after meas. 3	0.0 s	Table position	Н
Pause after meas. 4	0.0 s	Table position	0 mm
Pause after meas. 5			
	0.0 s	Inline Composing	Off
Pause after meas. 6	0.0 s	System	
Pause after meas. 7	0.0 s	B1	On
Pause after meas. 8	0.0 s	B2	On
Pause after meas. 9	0.0 s		
Pause after meas. 10	0.0 s	B3	On
Pause after meas. 11	0.0 s	B4	On
Pause after meas. 12	0.0 s	B5	On
Pause after meas. 13	0.0 s	B6	On
Pause after meas. 14	0.0 s	B7	On
Pause after meas. 15	0.0 s	B8	On
Pause after meas. 16	0.0 s	Positioning mode	FIX
Pause after meas. 17	0.0 s	MSMA	S - C - T
Pause after meas. 18	0.0 s	Sagittal	R >> L
Pause after meas. 19	0.0 s	Coronal	A >> P
Pause after meas. 20	0.0 s	Transversal	F >> H
•	_	1	

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 Adjust volume Position Orientation Rotation	Off Adaptive Combine Default  Standard Off Off Off 100.000 V Auto  L2.0 P85.7 H0.0 Transversal 0.00 deg
R >> L A >> P	108 mm 27 mm
F >> H	7 mm
Physio 1st Signal/Mode	None
BOLD	None
Motion correction	Off Off
Spatial filter Sequence	Oil
Introduction	Off
Dimension	3D
Reordering Contrasts	Centric 1
Bandwidth	1148 Hz/Px
Echo spacing	1.02 ms
Slice turbo factor	6
EPI factor	32
RF pulse type Gradient mode	Normal Fast
Adjust flipangles FLIP ANGLES[1]	Off 180 deg
FLIP ANGLES[2]	180 deg
FLIP ANGLES[3]	180 deg
FLIP ANGLES[4] FLIP ANGLES[5]	180 deg 180 deg
FLIP ANGLES[6]	180 deg
Crusher Factor	7.00
Spoiler Factor	1.00
RF02 BWT Factor RF02 time	1.00 2560 ms
RF Scaling[1]	1.00
Phase Encoding PE	On
Phase Encoding 3D	On
Measurement Number Inversion Flag	1023 Off
FFT Scale Factor	0.10
ACROSSSEGMENTS	Off
PRIMARYMODE AUTOCORR	On Off
CROSSCORR	Off
FILTERED	On
FatSat FlipAngle	110 deg

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#### \\USER

