\\USER\Feinberglab\Suhyung\GRASE VASO w/ CS\BP\_grase\_IV\_Regular\_VASO\_SH

TA: 10:00 PAT: Off Voxel size: 0.8x0.8x1.5 mm Rel. SNR: 1.00 USER: BP\_grase\_IV\_CS\_VASO\_SH

Properties Prio Recon	Off	Position Orientation	Isocenter Coronal
Before measurement After measurement	<b>5</b>	Special sat. Table position	None H
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On	System	
Load to stamp segments	Off	T1	On
Load images to graphic	Off	M2	On
segments	0"	B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation Wait for user to start	Off	D ''' '	DEE
Start measurements	single	Positioning mode	REF S - C - T
Start measurements	Sirigie	MSMA	8 - C - 1 R >> L
Routine		Sagittal Coronal	R >> L A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	Isocenter	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P		
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	84.0 mm	! Ref. amplitude 1H	220.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.50 mm	Adjust volume	
TR	3000 ms	Position	Isocenter
TE	37.7 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations Filter	None	R >> L	84 mm
Coil elements	B4;M2,3;T1	A >> P F >> H	21 mm 12 mm
Con elements	D4,IVIZ,3,1 1	F >> H	12 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	1100 ms	Composing	
Flip angle	160 deg	<u></u>	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	200	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1144 Hz/Px
Multiple series	Off	Echo spacing	1 ms
Resolution		Turbo factor	5
Base resolution	112	EPI factor	28
Phase resolution	100 %	RF pulse type	Normal
Slice resolution	100 %	Gradient mode	Fast
Slice partial Fourier	5/8	refocussing type	sinc 2560
Interpolation	Off	BIR4: 2nd segm phase	338
	None	BIR4: duration	5120
PAT mode	None	excite duration	2560
Prescan Normalize	Off	refoc duration	2560
Raw filter	Off	excite BWTP	12.0
Goometry		refoc BWTP	8.0
Geometry	Intorioove	actual ETL	5
Series	Interleaved	phase encoding	ON
Sat. region 1		Maxwell compensation	Off
Thickness	20 mm	ICE program	single
•		1/17	

Time Delay [us]	1280
Regular or CS	Regular
Variable Flip Angle 01	180
Variable Flip Angle 02	180
Variable Flip Angle 03	180
Variable Flip Angle 04	180
Variable Flip Angle 05	180
Variable Flip Angle 06	180
Variable Flip Angle 07	180
Variable Flip Angle 08	180
Variable Flip Angle 09	180
Variable Flip Angle 10	180
Variable Flip Angle 11	180
Variable Flip Angle 12	180
Variable Flip Angle 13	180
Variable Flip Angle 14	180
Crusher Gr	40000

TA: 10:00 PAT: Off Voxel size: 0.8×0.8×1.5 mm Rel. SNR: 1.00 USER: BP\_GRASE\_VASO\_SH

Properties		Orientation - Special sat.	Coronal None
Prio Recon	Off		
Before measurement		Table position	H
After measurement		Table position	0 mm
Load to viewer	On	Inline Composing	Off
Inline movie	Off	System	
Auto store images	On		On
Load to stamp segments	Off	M2	On
Load images to graphic	Off	B4	On
segments	0"	M3	On
Auto open inline display	Off	V32	Off
Start measurement without	On		
further preparation Wait for user to start	Off	Positioning mode	REF
Start measurements	single	MSMA	S-C-T
Start measurements	Single	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode AutoAlign	Adaptive Combine
Position	Isocenter	Auto Coil Select	Default
Orientation	Transversal	Auto Con Select	
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 deg	Adjust with body coil	Off
Phase oversampling	0 %	Confirm freq. adjustment	Off
Slice oversampling	0.0 %	Assume Silicone	Off
Slices per slab	36	! Ref. amplitude 1H	220.000 V
FoV read	84.0 mm	Adjustment Tolerance	Auto
FoV phase	25.0 %	Adjust volume	
Slice thickness	1.50 mm	Position	Isocenter
TR	1500 ms	Orientation	Transversal
TE	24.02 ms	Rotation	0.00 deg
Averages	1	R >> L	84 mm
Concatenations	1	A >> P	21 mm
Filter	None	F >> H	54 mm
Coil elements	B4;M2,3;T1	Physio	
Contrast		1st Signal/Mode	None
Magn. preparation	None		
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	400	Contrasts	1
Pause after meas.	0.0 s	Bandwidth	1144 Hz/Px
Multiple series	Off	Echo spacing	1.2 ms
ı '		Turbo factor	36
Resolution	110	EPI factor	12
Base resolution	112	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 %		
Slice partial Fourier	Off	refocussing type	variable sinc
Interpolation	Off	flip angle excit	90
PAT mode	None	phase encoding	ON
Prescan Normalize	Off	Maxwell compensation	Off
Raw filter	Off	ICE program	single
Naw IIILEI	OII	excite duration	2560
Geometry		refoc duration	3840
Series	Interleaved	excite BWTP	12.0
Sat region 1		refoc BWTP	8.0 180
Sat. region 1 Thickness	22 mm	Variable Flip Angle 01 Variable Flip Angle 02	180
Position	Isocenter	Variable Flip Angle 02  Variable Flip Angle 03	180
Tookion	1000011101		.00
		3/17	

Variable Flip Angle 04 Variable Flip Angle 05 Variable Flip Angle 06 Variable Flip Angle 07 Variable Flip Angle 08 Variable Flip Angle 09 Variable Flip Angle 10 Variable Flip Angle 11 Variable Flip Angle 12 Variable Flip Angle 13 Variable Flip Angle 13 Variable Flip Angle 15 Variable Flip Angle 15 Variable Flip Angle 16 Variable Flip Angle 17 Variable Flip Angle 17 Variable Flip Angle 18 Variable Flip Angle 19 Variable Flip Angle 20 Regular or CS actual ETL Which areas? Blood Supp. DANTE FA	180 180 180 180 180 180 180 180 180 180	ex
	• •	ex
• •		
DANTE TRAINS1	200	
DANTE TRAINS2	0	
DANTE GRAD	20	
DANTE ESP	1.0	

TA: 10:00 PAT: Off Voxel size: 0.8×0.8×1.5 mm Rel. SNR: 1.00 USER: BP\_GRASE\_VASO\_SH

Properties		Orientation	Coronal
Prio Recon	Off	— Special sat.	None
Before measurement		Table position	Н
After measurement		Table position	0 mm
Load to viewer	On	Inline Composing	Off
Inline movie	Off		
Auto store images	On	System	
Load to stamp segments	Off	T1	On
Load images to graphic	Off	M2	On
segments	<b>.</b>	B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation	On	Desitioning made	REF
Wait for user to start	Off	Positioning mode	
Start measurements	single	MSMA Sociital	S-C-T
Start measurements	Sirigie	Sagittal	R >> L
Routine		Coronal	A >> P
Slab group 1		— Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	Isocenter	AutoAlign	 D ( )
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Shim mode	Standard
Rotation	0.00 deg	Adjust with body coil	Off
Phase oversampling	0 %	Confirm freq. adjustment	Off
Slice oversampling	0.0 %	Assume Silicone	Off
Slices per slab	36		220.000 V
FoV read	84.0 mm	! Ref. amplitude 1H	
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.50 mm	Adjust volume	
TR	1.50 mm 1500 ms	Position	Isocenter
		Orientation	Transversal
TE	24.02 ms	Rotation	0.00 deg
Averages	1	R >> L	84 mm
Concatenations	1	A >> P	21 mm
Filter	None	F >> H	54 mm
Coil elements	B4;M2,3;T1	Physio	
Contrast		1st Signal/Mode	None
Magn. preparation	None	_ ' "	110.10
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat, mode	Strong	Introduction	Off
		Dimension	3D
Averaging mode	Long term		Centric
Reconstruction	Magnitude	Reordering	
Measurements	400	Contrasts Bandwidth	1 11.14 Ha/Dy
Pause after meas.	0.0 s		1144 Hz/Px
Multiple series	Off	Echo spacing	1.2 ms
Desclution		Turbo factor	36
Resolution	110	EPI factor	12
Base resolution Phase resolution	112	RF pulse type	Normal
Phase resolution			
	100 %	Gradient mode	Fast
Slice resolution	100 %	Gradient mode	Fast
Slice resolution Slice partial Fourier	100 % Off	refocussing type	variable sinc
Slice resolution	100 %	refocussing type flip angle excit	variable sinc 90
Slice resolution Slice partial Fourier Interpolation	100 % Off Off	refocussing type	variable sinc 90 ON
Slice resolution Slice partial Fourier Interpolation PAT mode	100 % Off	refocussing type flip angle excit	variable sinc 90
Slice resolution Slice partial Fourier Interpolation	100 % Off Off	refocussing type flip angle excit phase encoding Maxwell compensation	variable sinc 90 ON Off
Slice resolution Slice partial Fourier Interpolation PAT mode	100 % Off Off None	refocussing type flip angle excit phase encoding Maxwell compensation ICE program	variable sinc 90 ON
Slice resolution Slice partial Fourier Interpolation PAT mode Prescan Normalize Raw filter	100 % Off Off None	refocussing type flip angle excit phase encoding Maxwell compensation ICE program excite duration	variable sinc 90 ON Off single 2560
Slice resolution Slice partial Fourier Interpolation PAT mode Prescan Normalize Raw filter Geometry	100 % Off Off None Off Off	refocussing type flip angle excit phase encoding Maxwell compensation ICE program	variable sinc 90 ON Off single 2560 3840
Slice resolution Slice partial Fourier Interpolation PAT mode Prescan Normalize Raw filter	100 % Off Off None	refocussing type flip angle excit phase encoding Maxwell compensation ICE program excite duration refoc duration excite BWTP	variable sinc 90 ON Off single 2560 3840 12.0
Slice resolution Slice partial Fourier Interpolation  PAT mode  Prescan Normalize Raw filter  Geometry Series	100 % Off Off None Off Off	refocussing type flip angle excit phase encoding Maxwell compensation ICE program excite duration refoc duration excite BWTP refoc BWTP	variable sinc 90 ON Off single 2560 3840 12.0 8.0
Slice resolution Slice partial Fourier Interpolation  PAT mode  Prescan Normalize Raw filter  Geometry Series  Sat. region 1	100 % Off Off None Off Off Interleaved	refocussing type flip angle excit phase encoding Maxwell compensation ICE program excite duration refoc duration excite BWTP refoc BWTP Variable Flip Angle 01	variable sinc 90 ON Off single 2560 3840 12.0 8.0 180
Slice resolution Slice partial Fourier Interpolation  PAT mode  Prescan Normalize Raw filter  Geometry Series	100 % Off Off None Off Off	refocussing type flip angle excit phase encoding Maxwell compensation ICE program excite duration refoc duration excite BWTP refoc BWTP	variable sinc 90 ON Off single 2560 3840 12.0 8.0

Variable Flip Angle 04 Variable Flip Angle 05 Variable Flip Angle 06 Variable Flip Angle 07 Variable Flip Angle 08 Variable Flip Angle 09 Variable Flip Angle 10 Variable Flip Angle 11 Variable Flip Angle 12 Variable Flip Angle 13 Variable Flip Angle 14 Variable Flip Angle 15 Variable Flip Angle 16 Variable Flip Angle 17 Variable Flip Angle 17 Variable Flip Angle 18 Variable Flip Angle 19 Variable Flip Angle 20 Regular or CS actual ETL Which areas? Blood Supp.	180 180 180 180 180 180 180 180
actual ETL	14
Which areas?	
• •	
DANTE FA	9
DANTE TRAINS1	200
DANTE CRAD	500
DANTE GRAD DANTE ESP	20 1.0
DAIN I E EOP	1.0

 $\label{local_control$ 

Properties Prio Recon	Off	Position Orientation	Isocenter Coronal
Before measurement	Oli	Special sat.	None
After measurement Load to viewer	0.5	Table position  Table position	H
Inline movie	On Off	Inline Composing	0 mm Off
Auto store images	On	Inline Composing	Oil
Load to stamp segments	Off	System	
Load images to graphic	Off	T1	On
segments	Oll	M2	On
Auto open inline display	Off	B4	On
Start measurement without	On	M3	On
further preparation	OII	V32	Off
Wait for user to start	Off	Docitioning mode	REF
Start measurements	single	Positioning mode MSMA	S-C-T
l	Single	Sagittal	R >> L
Routine		——— Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Save uncombined	г >> п Off
Dist. factor	0 %	Coil Combine Mode	
Position	Isocenter		Adaptive Combine
Orientation	Transversal	AutoAlign Auto Coil Select	 Default
Phase enc. dir.	A >> P	Auto Coli Select	Delauli
Rotation	0 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	84 mm	! Ref. amplitude 1H	220.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.5 mm	Adjust volume	
TR	3000 ms	Position	Isocenter
TE	37.66 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	84 mm
Filter	None	A >> P	21 mm
Coil elements	B4;M2,3;T1	F >> H	12 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1 Hysio 1 Hysio 1 Hysio 1 Signal/Mode	None
TI	100 ms	1	None
Flip angle	160 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat, mode	Strong	Introduction	Off
		Dimension	3D
Averaging mode	Long term	Reordering	Centric
Reconstruction	Magnitude	Contrasts	2
Measurements	200	Bandwidth	1144 Hz/Px
Pause after meas.	0 s		
Multiple series	Off	Turbo factor	5
Resolution		EPI factor	28
Base resolution	112	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 %	refocussing type	sinc 2560
Slice partial Fourier	5/8	flip angle excit	12
Interpolation	Off	phase encoding	16
		Maxwell compensation	Off
PAT mode	None	ICE program	Mosaic
Prescan Normalize	Off	excite duration	2560
Raw filter	Off	refoc duration	6
	<del>-</del>	excite BWTP	8
Geometry		refoc BWTP	0
Series	Interleaved	Variable Flip Angle 01	0
Sat. region 1		Variable Flip Angle 01  Variable Flip Angle 02	1
Thickness	20 mm	Variable Flip Angle 02 Variable Flip Angle 03	1
1		Tanabio i lip / liigio oo	•

Variable Flip Angle 04	2300
Variable Flip Angle 05	0
Variable Flip Angle 06	180
Variable Flip Angle 07	180
Variable Flip Angle 08	180
Variable Flip Angle 09	180
Variable Flip Angle 10	180
Variable Flip Angle 11	180
Variable Flip Angle 12	180
Variable Flip Angle 13	180
Variable Flip Angle 14	180
Variable Flip Angle 15	180
Variable Flip Angle 16	180
Variable Flip Angle 17	180
Variable Flip Angle 18	180
Variable Flip Angle 19	180
Variable Flip Angle 20	40000
Regular or CS	Regular
actual ETL	0
Which areas?	Visual Cortex
Blood Supp.	Off
DANTE FA	0
DANTE TRAINS1	0
DANTE TRAINS2	0
DANTE GRAD	0
DANTE ESP	0

Properties Prio Recon	Off	Position Orientation Special sat.	Isocenter Coronal None
Before measurement After measurement Load to viewer	On	Table position Table position	H 0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		
Load to stamp segments	Off	System T1	On
Load images to graphic	Off	M2	On
segments		B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation	Off		
Wait for user to start Start measurements	single	Positioning mode	REF
Start measurements	Single	MSMA Sagittal	S - C - T R >> L
Routine		- Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	Isocenter	AutoAlign	
Orientation	Transversal A >> P	Auto Coil Select	Default
Phase enc. dir. Rotation	0 deg	China mada	Oton dowd
Phase oversampling	0 %	Shim mode Adjust with body coil	Standard Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	84 mm	! Ref. amplitude 1H	220.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.5 mm	Adjust volume	, 101.0
TR	3000 ms	Position	Isocenter
TE	37.66 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	84 mm
Filter	None	A >> P	21 mm
Coil elements	B4;M2,3;T1	F >> H	12 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	200 ms	1	
Flip angle	160 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	200	Contrasts	2
Pause after meas.	0 s	Bandwidth	1144 Hz/Px
Multiple series	Off	Turbo factor	5
Resolution		EPI factor	28
Base resolution	112	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 %	refocussing type	sinc 2560
Slice partial Fourier	5/8	flip angle excit	12
Interpolation	Off	phase encoding	
PAT mode	None	Maxwell compensation	Off
		ICE program	Mosaic
Prescan Normalize	Off	excite duration	2560
Raw filter	Off	refoc duration	6
Geometry		excite BWTP	8
Series	Interleaved	refoc BWTP	0
Sat ragion 1		Variable Flip Angle 01	0
Sat. region 1 Thickness	20 mm	Variable Flip Angle 02 Variable Flip Angle 03	1 1
11110111699	20 IIIII	Variable Filp Aligle 03	1

Variable Flip Angle 04	2200
Variable Flip Angle 05	0
Variable Flip Angle 06	180
Variable Flip Angle 07	180
Variable Flip Angle 08	180
Variable Flip Angle 09	180
Variable Flip Angle 10	180
Variable Flip Angle 11	180
Variable Flip Angle 12	180
Variable Flip Angle 13	180
Variable Flip Angle 14	180
Variable Flip Angle 15	180
Variable Flip Angle 16	180
Variable Flip Angle 17	180
Variable Flip Angle 18	180
Variable Flip Angle 19	180
Variable Flip Angle 20	40000
Regular or CS	Regular
actual ETL	0
Which areas?	Visual Cortex
Blood Supp.	Off
DANTE FA	0
DANTE TRAINS1	0
DANTE TRAINS2	0
DANTE GRAD	0
DANTE ESP	0

#### \\USER\Feinberglab\Suhyung\GRASE VASO w/ CS\BP\_grase\_IV\_VFA\_VASO\_SH

TA: 12:03 PAT: Off Voxel size: 0.8x0.8x1.5 mm Rel. SNR: 1.00 USER: BP\_grase\_IV\_CS\_VASO\_SH

Properties Prio Recon	Off	Position Orientation	Isocenter Coronal
Before measurement After measurement		Special sat. Table position	None H
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On	System	
Load to stamp segments	Off	T1	On
Load images to graphic	Off	M2	On
segments	2"	B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation Wait for user to start	Off		DEE
Start measurements	single	Positioning mode	REF S - C - T
Start measurements	Single	MSMA Societal	S-C-1 R>>L
Routine		Sagittal Coronal	K >> L A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	Isocenter	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Auto Coli Select	Delault
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	8	Assume Silicone	Off
FoV read	84.0 mm	! Ref. amplitude 1H	220.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.50 mm	Adjust volume	
TR	3000 ms	Position	Isocenter
TE	37.7 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1 Name	R >> L	84 mm
Filter Coil elements	None	A >> P	21 mm
Coll elements	B4;M2,3;T1	F >> H	12 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	1100 ms	Composing	
Flip angle	160 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	241	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1144 Hz/Px
Multiple series	Off	Echo spacing	1 ms
Parallution		Turbo factor	5
Resolution	440	EPI factor	28
Base resolution	112	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 % 5/8		
Slice partial Fourier Interpolation	Off	refocussing type	variable sinc
interpolation	<b>∪</b> II	BIR4: 2nd segm phase	338
PAT mode	None	BIR4: duration	5120
Prescan Normalize	Off	excite duration	2560
Raw filter	Off	refoc duration	2560
naw iiitel		excite BWTP	12.0
	311	rofoo DM/TD	0 0
Geometry	Oli	refoc BWTP	8.0
Geometry Series	Interleaved	actual ETL	5
Series		actual ETL phase encoding	5 ON
		actual ETL	5

Time Delay [us]	1280
Regular or CS	Regular
Variable Flip Angle 01	119
Variable Flip Angle 02	72
Variable Flip Angle 03	71
Variable Flip Angle 04	86
Variable Flip Angle 05	119
Variable Flip Angle 06	180
Variable Flip Angle 07	180
Variable Flip Angle 08	180
Variable Flip Angle 09	180
Variable Flip Angle 10	180
Variable Flip Angle 11	180
Variable Flip Angle 12	180
Variable Flip Angle 13	180
Variable Flip Angle 14	180
Crusher Gr	40000

 $\verb|\USER\Feinberg| lab| Suhyung \GRASE\ VASO\ w/\ CS\BP\_grase\_IV\_CS\_VASO\_SH\_24SL$ 

TA: 12:03 PAT: Off Voxel size: 0.8x0.8x1.5 mm Rel. SNR: 1.00 USER: BP\_grase\_IV\_CS\_VASO\_SH

Properties Prio Recon	Off	Position Orientation	Isocenter Coronal
Before measurement After measurement		Special sat. Table position	None H
Load to viewer	On	Table position	0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On	System	
Load to stamp segments	Off	T1	On
Load images to graphic	Off	M2	On
segments	2"	B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation Wait for user to start	Off		DEE
Start measurements	single	Positioning mode	REF S - C - T
Start measurements	Single	MSMA Societal	S-C-1 R>>L
Routine		Sagittal Coronal	K >> L A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	Isocenter	AutoAlign	
Orientation	Transversal	Auto Coil Select	Default
Phase enc. dir.	A >> P	Auto Coli Gelect	
Rotation	0.00 deg	Shim mode	Standard
Phase oversampling	0 %	Adjust with body coil	Off
Slice oversampling	0.0 %	Confirm freq. adjustment	Off
Slices per slab	24	Assume Silicone	Off
FoV read	84.0 mm	! Ref. amplitude 1H	220.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	1.50 mm	Adjust volume	
TR	3000 ms	Position	Isocenter
TE	27.5 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1 Nana	R >> L	84 mm
Filter Coil elements	None	A >> P	21 mm
Coll elements	B4;M2,3;T1	F >> H	36 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	1100 ms	Composing	
Flip angle	180 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	241	Contrasts	2
Pause after meas.	0.0 s	Bandwidth	1144 Hz/Px
Multiple series	Off	Echo spacing	1.2 ms
•		Turbo factor	24
Resolution	110	EPI factor	16
Base resolution	112	RF pulse type	Normal
Phase resolution Slice resolution	100 % 100 %	Gradient mode	Fast
Slice resolution Slice partial Fourier	Off		
Interpolation	Off	refocussing type	variable sinc
interpolation	<b>∪</b> II	BIR4: 2nd segm phase	338
PAT mode	None	BIR4: duration	5120
Prescan Normalize	Off	excite duration	2560
Raw filter	Off	refoc duration	2560
naw iiitel		excite BWTP	12.0
	Oil	rofoo PM/TD	0.0
Geometry	Oli	refoc BWTP	8.0
Geometry Series	Interleaved	actual ETL	10
Series		actual ETL phase encoding	10 ON
		actual ETL	10

Time Delay [us]	1200
Regular or CS	CS
Variable Flip Angle 01	82
Variable Flip Angle 02	47
Variable Flip Angle 03	43
Variable Flip Angle 04	42
Variable Flip Angle 05	45
Variable Flip Angle 06	49
Variable Flip Angle 07	57
Variable Flip Angle 08	66
Variable Flip Angle 09	82
Variable Flip Angle 10	130
Variable Flip Angle 11	180
Variable Flip Angle 12	180
Variable Flip Angle 13	180
Variable Flip Angle 14	180
Crusher Gr	40000

 $\label{local-condition} $$\USER\Feinberglab\Suhyung\GRASE\VASO\w/\CS\BP\_grase\_IV\_CS\_VFA\_VASO\_GMS\_SH$$ TA: 0:00 PAT: Off Voxel size: 0.8 \times 0.8 \times 0.8 mm Rel. SNR: 1.00 USER: BP\_grase\_IV\_CS\_VASO\_SH$$ $$\USER: BP$ 

Properties Prio Recon	Off	Position Orientation Special sat.	Isocenter Coronal None
Before measurement After measurement Load to viewer	On	Table position Table position	H 0 mm
Inline movie	Off	Inline Composing	Off
Auto store images	On		
Load to stamp segments	Off	System T1	On
Load images to graphic	Off	M2	On
segments		B4	On
Auto open inline display	Off	M3	On
Start measurement without	On	V32	Off
further preparation	Off		DEE
Wait for user to start Start measurements	single	Positioning mode	REF
Start measurements	Single	MSMA Sagittal	S - C - T R >> L
Routine		- Coronal	A >> P
Slab group 1		Transversal	F >> H
Slabs	1	Save uncombined	Off
Dist. factor	0 %	Coil Combine Mode	Adaptive Combine
Position	Isocenter	AutoAlign	
Orientation	Transversal A >> P	Auto Coil Select	Default
Phase enc. dir. Rotation	0 deg	China manda	Oten devel
Phase oversampling	0 W	Shim mode	Standard Off
Slice oversampling	0.0 %	Adjust with body coil Confirm freq. adjustment	Off
Slices per slab	24	Assume Silicone	Off
FoV read	89.6 mm	! Ref. amplitude 1H	220.000 V
FoV phase	25.0 %	Adjustment Tolerance	Auto
Slice thickness	0.8 mm	Adjust volume	71010
TR	3000 ms	Position	Isocenter
TE	27 ms	Orientation	Transversal
Averages	1	Rotation	0.00 deg
Concatenations	1	R >> L	90 mm
Filter	None	A >> P	23 mm
Coil elements	B4;M2,3;T1	F >> H	20 mm
Contrast		Physio	
Magn. preparation	Non-sel. IR	1st Signal/Mode	None
TI	380 ms	1	
Flip angle	160 deg	Composing	
Fat suppr.	Fat sat.	Sequence	
Fat sat. mode	Strong	Introduction	Off
Averaging mode	Long term	Dimension	3D
Reconstruction	Magnitude	Reordering	Centric
Measurements	240	Contrasts	2
Pause after meas.	0 s	Bandwidth	1144 Hz/Px
Multiple series	Off	Turbo factor	18
Resolution		EPI factor	16
Base resolution	112	RF pulse type	Normal
Phase resolution	100 %	Gradient mode	Fast
Slice resolution	100 %	refocussing type	variable sinc
Slice partial Fourier	6/8	BIR4: 2nd segm phase	338
Interpolation	Off	BIR4: duration	5120
PAT mode	None	excite duration	2560
		refoc duration	2560
Prescan Normalize	Off	excite BWTP	12
Raw filter	Off	refoc BWTP	8
Geometry		actual ETL	10
Series	Interleaved	- phase encoding	ON O"
		Maxwell compensation	Off
Sat. region 1	20 mm	ICE program	single
Thickness	20 mm	Time Delay [us]	1280

Regular or CS	CS
Variable Flip Angle 01	82
Variable Flip Angle 02	47
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Variable Flip Angle 11	180
Variable Flip Angle 12	180
Variable Flip Angle 13	180
Variable Flip Angle 14	180
Crusher Gr	0

# Table of contents

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