

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\localizer_200V_nova
TA: 0:27 PAT: Off Voxel size: 1.2x1.1x3.0 mm Rel. SNR: 1.00 SIEMENS: gre

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slice group 1	
Slices	5
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Slice group 2	
Slices	5
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
Rotation	0.00 deg
Slice group 3	
Slices	5
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	10.0 ms
TE	3.00 ms
Averages	1
Concatenations	15
Filter	None
Coil elements	B4;M2,3;T1

Contrast

TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None
SWI	Off
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution

Base resolution	256
-----------------	-----

Phase resolution	90 %
Phase partial Fourier	6/8
Interpolation	On
PAT mode	None
Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

Geometry

Multi-slice mode	Sequential
Series	Interleaved
Saturation mode	Standard
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off
Tim CT mode	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	On
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Off
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	200.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

Physio

1st Signal/Mode	None
Segments	1
Tagging	None
Dark blood	Off
Resp. control	Off

Inline

Subtract	Off
----------	-----

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

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
<hr/>	
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
<hr/>	
MapIt	None
Contrasts	1

Sequence

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Bandwidth	320 Hz/Px
Flow comp.	No
<hr/>	
RF pulse type	Normal
Gradient mode	Whisper
Excitation	Slice-sel.
RF spoiling	On

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhjung\GRASE_IV_CS_GRASE\t1_mpr_sag_p9mm_iso

TA: 6:14 PAT: Off Voxel size: 0.9x0.9x0.9 mm Rel. SNR: 1.00 SIEMENS: tfl

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	18.2 %
Slices per slab	176
FoV read	230 mm
FoV phase	87.5 %
Slice thickness	0.90 mm
TR	1900 ms
TE	2.16 ms
Averages	1
Concatenations	1
Filter	Elliptical filter
Coil elements	8CH

Contrast

Magn. preparation	Non-sel. IR
T1	900 ms
Flip angle	9 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution

Base resolution	256
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	7/8
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On

Mode

Inplane

Geometry

Multi-slice mode	Single shot
Series	Ascending
Table position	H
Table position	0 mm
Inline Composing	Off

System

8CH	On
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Off
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

Physio

1st Signal/Mode	None
Dark blood	Off
Resp. control	Off

Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Sequence

Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Allowed
Bandwidth	200 Hz/Px
Flow comp.	No
Echo spacing	6.3 ms
RF pulse type	Normal
Gradient mode	Normal
Excitation	Non-sel.

| RF spoiling On

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhjung\GRASE_IV_CS_GRASE\b1map_200V_TR1000_nova

TA: 1:09

Voxel size: 3.9x3.9x5.0 mm

Rel. SNR: 1.00

USER: b1map_658

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slice group 1	
Slices	10
Dist. factor	100 %
Position	R0.7 A36.4 H11.5
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
FoV read	250 mm
FoV phase	100.0 %
Slice thickness	5 mm
TR	1000 ms
TE 1	14 ms
TE 2	14 ms
Averages	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Flip angle 1	90 deg
Flip angle 2	120 deg
Flip angle 3	60 deg
Flip angle 4	135 deg
Flip angle 5	45 deg
Measurements	1

Resolution

Base resolution	64
Phase resolution	100 %
Raw filter	Off

Geometry

Series	Interleaved
Navigator 1	
Position	R2.0 P26.3 F10.8
Orientation	Transversal
Rotation	0.00 deg
Base size phase	50 mm
Base size read	119 mm
Thickness	50 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On

M3 On
V32 Off

Positioning mode FIX
MSMA S - C - T
Sagittal R >> L
Coronal A >> P
Transversal F >> H
Save uncombined Off
Coil Combine Mode Adaptive Combine
AutoAlign ---
Auto Coil Select Default

Shim mode Tune up
Adjust with body coil Off
Confirm freq. adjustment Off
Assume Silicone Off
! Ref. amplitude 1H 200.000 V
Adjustment Tolerance Auto
Adjust volume
Position Isocenter
Orientation Transversal
Rotation 0.00 deg
R >> L 350 mm
A >> P 263 mm
F >> H 350 mm

Composing

Sequence

Contrasts 2
Bandwidth 260.416667 Hz/Px
T1 Compensation Mean T1
Mean T1 1000.0 ms
Angles 1
Amplitude Weighting Linear
Scale Bar Enabled
Raw Data Disabled

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\mp2rage_0.8mmiso_TR4500

TA: 5:48 PAT: 3 Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: mp2rage_wip602B

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	L1.2 A25.6 F16.0
Orientation	Sagittal
Phase enc. dir.	H >> F
Rotation	90.00 deg
Phase oversampling	0 %
Slice oversampling	8.3 %
Slices per slab	192
FoV read	206 mm
FoV phase	62.5 %
Slice thickness	0.80 mm
TR	4500 ms
TE	3.32 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	Non-sel. IR
TI 1	1000 ms
TI 2	3200 ms
Flip angle 1	4 deg
Flip angle 2	4 deg
Fat suppr.	Water excit. fast
Water suppr.	None
2nd Inversion-Contrast	On
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution

Base resolution	256
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	36
Accel. factor 3D	1
Reference scan mode	Integrated

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

Geometry

Multi-slice mode	Single shot
Series	Interleaved
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	230.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	L1.9 A24.9 F9.3
! Orientation	Sagittal
! Rotation	0.00 deg
! F >> H	108 mm
! A >> P	160 mm
! R >> L	127 mm

Physio

1st Signal/Mode	None
Dark blood	Off
Resp. control	Off

Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Sequence

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Off
Contrasts	1
Bandwidth	200 Hz/Px
Flow comp.	Slice
Echo spacing	8.1 ms
<hr/>	
RF pulse type	Fast
Gradient mode	Fast
Excitation	Non-sel.
RF spoiling	On
<hr/>	
FFT Scale Factor	200 %
Line/Partition Swap	Off
Homodyne Phase Filter	Off
Flat Image	On
T1 Map	On
Division Image	Off
ExtInvPulseOn	On
OffResFreqInv	0
Invflipangle	970

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_Regular

TA: 6:00 PAT: Off Voxel size: 0.8x0.8x1.5 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	90.0 mm
FoV phase	25.0 %
Slice thickness	1.50 mm
TR	3000 ms
TE	37.58 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	120
Pause after meas.	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	5/8
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat. Coronal

Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	12 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Echo spacing	1 ms
Turbo factor	5
EPI factor	28
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepsans	0
excite duration	2560
refoc duration	2560
excite BWTP	12.0
refoc BWTP	8.0
T2 Validation	Off
pre-crusher	40000

post-crusher1	40000
post-crusher2	40000
post-crusher3	40000
post-crusher4	40000
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
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_Regular_nSTE

TA: 6:00 PAT: Off Voxel size: 0.8x0.8x1.5 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	90.0 mm
FoV phase	25.0 %
Slice thickness	1.50 mm
TR	3000 ms
TE	37.58 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	120
Pause after meas.	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	5/8
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat. Coronal

Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	12 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Echo spacing	1 ms
Turbo factor	5
EPI factor	28
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepsans	0
excite duration	2560
refoc duration	2560
excite BWTP	12.0
refoc BWTP	8.0
T2 Validation	Off
pre-crusher	37500

post-crusher1	50000
post-crusher2	25000
post-crusher3	50000
post-crusher4	25000
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
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_Regular

TA: 6:00 PAT: Off Voxel size: 0.8x0.8x1.5 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	90.0 mm
FoV phase	25.0 %
Slice thickness	1.50 mm
TR	3000 ms
TE	37.58 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	165 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	120
Pause after meas.	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	5/8
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat.

Coronal

None

Table position

H

Table position

0 mm

Inline Composing

Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	12 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Echo spacing	1 ms
Turbo factor	5
EPI factor	28
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepsans	0
excite duration	2560
refoc duration	2560
excite BWTP	12.0
refoc BWTP	8.0
T2 Validation	Off
pre-crusher	40000

post-crusher1	40000
post-crusher2	40000
post-crusher3	40000
post-crusher4	40000
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
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_Regular_nSTE

TA: 6:00 PAT: Off Voxel size: 0.8x0.8x1.5 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	90.0 mm
FoV phase	25.0 %
Slice thickness	1.50 mm
TR	3000 ms
TE	37.58 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	165 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	120
Pause after meas.	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	5/8
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation
Special sat. Coronal
None

Table position H
Table position 0 mm
Inline Composing Off

System

T1 On
M2 On
B4 On
M3 On
V32 Off
Positioning mode REF
MSMA S - C - T
Sagittal R >> L
Coronal A >> P
Transversal F >> H
Save uncombined Off
Coil Combine Mode Adaptive Combine
AutoAlign ---
Auto Coil Select Default

Shim mode Standard
Adjust with body coil Off
Confirm freq. adjustment Off
Assume Silicone Off
! Ref. amplitude 1H 220.000 V
Adjustment Tolerance Auto
Adjust volume
Position Isocenter
Orientation Transversal
Rotation 0.00 deg
R >> L 90 mm
A >> P 23 mm
F >> H 12 mm

Physio

1st Signal/Mode None

Composing

Sequence

Introduction Off
Dimension 3D
Reordering Centric
Contrasts 1
Bandwidth 1144 Hz/Px
Echo spacing 1 ms
Turbo factor 5
EPI factor 28
RF pulse type Normal
Gradient mode Fast
refocussing type sinc 2560
flip angle excit 90
phase encoding ON
Maxwell compensation Off
ICE program single
prepscans 0
excite duration 2560
refoc duration 2560
excite BWTP 12.0
refoc BWTP 8.0
T2 Validation Off
pre-crusher 37500

post-crusher1	50000
post-crusher2	25000
post-crusher3	50000
post-crusher4	25000
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
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_Regular_nSTE_T2map_ICEoff

TA: 0:30 PAT: Off Voxel size: 0.8x0.8x3.0 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	90.0 mm
FoV phase	25.0 %
Slice thickness	3.00 mm
TR	3000 ms
TE	37.54 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	165 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	5/8
Interpolation	Off
PAT mode	None

Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter
Orientation	Coronal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	24 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Echo spacing	1 ms
Turbo factor	5
EPI factor	28
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

ICE program	single
prepskans	0
excite duration	2560
refoc duration	2560
excite BWTP	12.0
refoc BWTP	8.0
T2 Validation	On
pre-crusher	37500
post-crusher1	50000
post-crusher2	25000
post-crusher3	50000
post-crusher4	25000
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
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\se_mc

TA: 2:12

PAT: Off

Voxel size: 1.0x1.0x5.0 mm

Rel. SNR: 1.00

SIEMENS: se_mc

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slice group 1	
Slices	1
Dist. factor	100 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	128 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	1000 ms
TE	13.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	

Contrast

MTC	Off
Magn. preparation	None
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution

Base resolution	128
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved

Special sat.

None

Table position	H
Table position	0 mm
Inline Composing	Off

System

Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

Physio

1st Signal/Mode	None
Dark blood	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

MapIt	None
Contrasts	1

Sequence

Introduction	On
Bandwidth	130 Hz/Px
Allowed delay	0 s
RF pulse type	Low SAR
Gradient mode	Fast

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_Regular

TA: 0:30 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.80 mm
TR	3000 ms
TE	37.74 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	None

Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter
Orientation	Coronal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	7 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Echo spacing	1 ms
Turbo factor	6
EPI factor	28
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	OFF
Maxwell compensation	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

ICE program	single
prepsans	0
excite duration	2560
refoc duration	2560
excite BWTP	12.0
refoc BWTP	8.0
T2 Validation	Off
pre-crusher	40000
post-crusher1	40000
post-crusher2	40000
post-crusher3	40000
post-crusher4	40000
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
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_VFA

TA: 0:30 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	18
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.80 mm
TR	3000 ms
TE	37.74 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	None

Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter
Orientation	Coronal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	15 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Echo spacing	1 ms
Turbo factor	14
EPI factor	28
RF pulse type	Normal
Gradient mode	Fast
refocussing type	variable sinc
flip angle excit	90
phase encoding	OFF
Maxwell compensation	Off

ICE program	single
prepsans	0
excite duration	2560
refoc duration	2560
excite BWTP	12.0
refoc BWTP	8.0
T2 Validation	Off
pre-crusher	40000
post-crusher1	40000
post-crusher2	40000
post-crusher3	40000
post-crusher4	40000
Variable Flip Angle 01	90
Variable Flip Angle 02	49
Variable Flip Angle 03	45
Variable Flip Angle 04	43
Variable Flip Angle 05	43
Variable Flip Angle 06	43
Variable Flip Angle 07	42
Variable Flip Angle 08	43
Variable Flip Angle 09	46
Variable Flip Angle 10	51
Variable Flip Angle 11	58
Variable Flip Angle 12	67
Variable Flip Angle 13	77
Variable Flip Angle 14	90
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_CFA_SL18_ETL06

TA: 0:00

PAT: Off

Voxel size: 0.8x0.8x0.8 mm

Rel. SNR: 1.00

USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	18
FoV read	90 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	48
Pause after meas. 1	0 s
Pause after meas. 2	0 s
Pause after meas. 3	0 s
Pause after meas. 4	0 s
Pause after meas. 5	0 s
Pause after meas. 6	0 s
Pause after meas. 7	0 s
Pause after meas. 8	0 s
Pause after meas. 9	0 s
Pause after meas. 10	0 s
Pause after meas. 11	0 s
Pause after meas. 12	0 s
Pause after meas. 13	0 s
Pause after meas. 14	0 s
Pause after meas. 15	0 s
Pause after meas. 16	0 s
Pause after meas. 17	0 s
Pause after meas. 18	0 s
Pause after meas. 19	0 s

Pause after meas. 20	0 s
Pause after meas. 21	0 s
Pause after meas. 22	0 s
Pause after meas. 23	0 s
Pause after meas. 24	0 s
Pause after meas. 25	0 s
Pause after meas. 26	0 s
Pause after meas. 27	0 s
Pause after meas. 28	0 s
Pause after meas. 29	0 s
Pause after meas. 30	0 s
Pause after meas. 31	0 s
Pause after meas. 32	0 s
Pause after meas. 33	0 s
Pause after meas. 34	0 s
Pause after meas. 35	0 s
Pause after meas. 36	0 s
Pause after meas. 37	0 s
Pause after meas. 38	0 s
Pause after meas. 39	0 s
Pause after meas. 40	0 s
Pause after meas. 41	0 s
Pause after meas. 42	0 s
Pause after meas. 43	0 s
Pause after meas. 44	0 s
Pause after meas. 45	0 s
Pause after meas. 46	0 s
Pause after meas. 47	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter
Orientation	Coronal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
<hr/>	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	15 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
<hr/>	
Turbo factor	18
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
refocussing type	sinc 2560
flip angle excit	90
phase encoding	OFF
Maxwell compensation	Off
ICE program	single
prepScans	0
actual ETL	6
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
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	120
Variable Flip Angle 08	150
Variable Flip Angle 09	170
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	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL24_ETL10

TA: 0:00 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	24
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	48
Pause after meas. 1	0 s
Pause after meas. 2	0 s
Pause after meas. 3	0 s
Pause after meas. 4	0 s
Pause after meas. 5	0 s
Pause after meas. 6	0 s
Pause after meas. 7	0 s
Pause after meas. 8	0 s
Pause after meas. 9	0 s
Pause after meas. 10	0 s
Pause after meas. 11	0 s
Pause after meas. 12	0 s
Pause after meas. 13	0 s
Pause after meas. 14	0 s
Pause after meas. 15	0 s
Pause after meas. 16	0 s
Pause after meas. 17	0 s
Pause after meas. 18	0 s
Pause after meas. 19	0 s

Pause after meas. 20	0 s
Pause after meas. 21	0 s
Pause after meas. 22	0 s
Pause after meas. 23	0 s
Pause after meas. 24	0 s
Pause after meas. 25	0 s
Pause after meas. 26	0 s
Pause after meas. 27	0 s
Pause after meas. 28	0 s
Pause after meas. 29	0 s
Pause after meas. 30	0 s
Pause after meas. 31	0 s
Pause after meas. 32	0 s
Pause after meas. 33	0 s
Pause after meas. 34	0 s
Pause after meas. 35	0 s
Pause after meas. 36	0 s
Pause after meas. 37	0 s
Pause after meas. 38	0 s
Pause after meas. 39	0 s
Pause after meas. 40	0 s
Pause after meas. 41	0 s
Pause after meas. 42	0 s
Pause after meas. 43	0 s
Pause after meas. 44	0 s
Pause after meas. 45	0 s
Pause after meas. 46	0 s
Pause after meas. 47	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter
Orientation	Coronal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off

Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
<hr/>	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	20 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
<hr/>	
Turbo factor	24
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
refocussing type	sinc 2560
flip angle excit	90
phase encoding	OFF
Maxwell compensation	Off
ICE program	single
prepScans	0
actual ETL	10
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	80
Variable Flip Angle 02	43
Variable Flip Angle 03	40
Variable Flip Angle 04	39
Variable Flip Angle 05	42
Variable Flip Angle 06	48
Variable Flip Angle 07	60
Variable Flip Angle 08	76
Variable Flip Angle 09	93
Variable Flip Angle 10	144
Variable Flip Angle 11	180
Variable Flip Angle 12	180
Variable Flip Angle 13	180
Variable Flip Angle 14	180
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL36_ETL14

TA: 0:00 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	36
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	48
Pause after meas. 1	0 s
Pause after meas. 2	0 s
Pause after meas. 3	0 s
Pause after meas. 4	0 s
Pause after meas. 5	0 s
Pause after meas. 6	0 s
Pause after meas. 7	0 s
Pause after meas. 8	0 s
Pause after meas. 9	0 s
Pause after meas. 10	0 s
Pause after meas. 11	0 s
Pause after meas. 12	0 s
Pause after meas. 13	0 s
Pause after meas. 14	0 s
Pause after meas. 15	0 s
Pause after meas. 16	0 s
Pause after meas. 17	0 s
Pause after meas. 18	0 s
Pause after meas. 19	0 s

Pause after meas. 20	0 s
Pause after meas. 21	0 s
Pause after meas. 22	0 s
Pause after meas. 23	0 s
Pause after meas. 24	0 s
Pause after meas. 25	0 s
Pause after meas. 26	0 s
Pause after meas. 27	0 s
Pause after meas. 28	0 s
Pause after meas. 29	0 s
Pause after meas. 30	0 s
Pause after meas. 31	0 s
Pause after meas. 32	0 s
Pause after meas. 33	0 s
Pause after meas. 34	0 s
Pause after meas. 35	0 s
Pause after meas. 36	0 s
Pause after meas. 37	0 s
Pause after meas. 38	0 s
Pause after meas. 39	0 s
Pause after meas. 40	0 s
Pause after meas. 41	0 s
Pause after meas. 42	0 s
Pause after meas. 43	0 s
Pause after meas. 44	0 s
Pause after meas. 45	0 s
Pause after meas. 46	0 s
Pause after meas. 47	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off

PAT mode None

Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter
Orientation	Coronal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
<hr/>	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	29 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
<hr/>	
Turbo factor	36
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
refocussing type	sinc 2560
flip angle excit	90
phase encoding	OFF
Maxwell compensation	Off
ICE program	single
prepScans	0
actual ETL	14
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	80
Variable Flip Angle 02	39
Variable Flip Angle 03	36
Variable Flip Angle 04	34
Variable Flip Angle 05	35
Variable Flip Angle 06	36
Variable Flip Angle 07	39
Variable Flip Angle 08	42
Variable Flip Angle 09	48
Variable Flip Angle 10	54
Variable Flip Angle 11	64
Variable Flip Angle 12	76
Variable Flip Angle 13	130
Variable Flip Angle 14	180
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_Regular

TA: 4:36 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.80 mm
TR	3000 ms
TE	37.74 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	92
Pause after meas.	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat. Coronal

Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	7 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Echo spacing	1 ms
Turbo factor	6
EPI factor	28
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepsans	0
excite duration	2560
refoc duration	2560
excite BWTP	12.0
refoc BWTP	8.0
T2 Validation	Off
pre-crusher	40000

post-crusher1	40000
post-crusher2	40000
post-crusher3	40000
post-crusher4	40000
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
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhjung\GRASE_IV_CS_GRASE\BP_grase_IV_VFA

TA: 4:36 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	18
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.80 mm
TR	3000 ms
TE	37.74 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	92
Pause after meas.	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation
Special sat. Coronal
None

Table position
Table position H
Inline Composing 0 mm
Off

System

T1 On
M2 On
B4 On
M3 On
V32 Off
Positioning mode REF
MSMA S - C - T
Sagittal R >> L
Coronal A >> P
Transversal F >> H
Save uncombined Off
Coil Combine Mode Adaptive Combine
AutoAlign ---
Auto Coil Select Default

Shim mode Standard
Adjust with body coil Off
Confirm freq. adjustment Off
Assume Silicone Off
! Ref. amplitude 1H 220.000 V
Adjustment Tolerance Auto
Adjust volume
Position Isocenter
Orientation Transversal
Rotation 0.00 deg
R >> L 90 mm
A >> P 23 mm
F >> H 15 mm

Physio

1st Signal/Mode None

Composing

Sequence

Introduction Off
Dimension 3D
Reordering Centric
Contrasts 1
Bandwidth 1144 Hz/Px
Echo spacing 1 ms

Turbo factor 14
EPI factor 28
RF pulse type Normal
Gradient mode Fast

refocussing type variable sinc
flip angle excit 90
phase encoding ON
Maxwell compensation Off
ICE program single
prepscans 0
excite duration 2560
refoc duration 2560
excite BWTP 12.0
refoc BWTP 8.0
T2 Validation Off
pre-crusher 40000

post-crusher1	40000
post-crusher2	40000
post-crusher3	40000
post-crusher4	40000
Variable Flip Angle 01	90
Variable Flip Angle 02	49
Variable Flip Angle 03	45
Variable Flip Angle 04	43
Variable Flip Angle 05	43
Variable Flip Angle 06	43
Variable Flip Angle 07	42
Variable Flip Angle 08	43
Variable Flip Angle 09	46
Variable Flip Angle 10	51
Variable Flip Angle 11	58
Variable Flip Angle 12	67
Variable Flip Angle 13	77
Variable Flip Angle 14	90
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_CFA_SL18_ETL06

TA: 0:00

PAT: Off

Voxel size: 0.8x0.8x0.8 mm

Rel. SNR: 1.00

USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	18
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	92
Pause after meas.	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat.

Coronal

None

Table position

H

Table position

0 mm

Inline Composing

Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	15 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Turbo factor	18
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prep scans	0
actual ETL	6
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	180
Variable Flip Angle 02	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Variable Flip Angle 03	180
Variable Flip Angle 04	180
Variable Flip Angle 05	180
Variable Flip Angle 06	180
Variable Flip Angle 07	120
Variable Flip Angle 08	150
Variable Flip Angle 09	170
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	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL24_ETL10

TA: 0:00

PAT: Off

Voxel size: 0.8x0.8x0.8 mm

Rel. SNR: 1.00

USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	24
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	92
Pause after meas.	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat.

Coronal

None

Table position

H

Table position

0 mm

Inline Composing

Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	20 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Turbo factor	24
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepsans	0
actual ETL	10
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	80
Variable Flip Angle 02	43

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Variable Flip Angle 03	40
Variable Flip Angle 04	39
Variable Flip Angle 05	42
Variable Flip Angle 06	48
Variable Flip Angle 07	60
Variable Flip Angle 08	76
Variable Flip Angle 09	93
Variable Flip Angle 10	144
Variable Flip Angle 11	180
Variable Flip Angle 12	180
Variable Flip Angle 13	180
Variable Flip Angle 14	180
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL36_ETL14

TA: 0:00

PAT: Off

Voxel size: 0.8x0.8x0.8 mm

Rel. SNR: 1.00

USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	36
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	92
Pause after meas.	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat.

Coronal

None

Table position

H

Table position

0 mm

Inline Composing

Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	29 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Turbo factor	36
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepsans	0
actual ETL	14
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	80
Variable Flip Angle 02	39

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Variable Flip Angle 03	36
Variable Flip Angle 04	34
Variable Flip Angle 05	35
Variable Flip Angle 06	36
Variable Flip Angle 07	39
Variable Flip Angle 08	42
Variable Flip Angle 09	48
Variable Flip Angle 10	54
Variable Flip Angle 11	64
Variable Flip Angle 12	76
Variable Flip Angle 13	130
Variable Flip Angle 14	180
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL48_ETL14

TA: 0:00 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	48
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	92
Pause after meas.	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation
Special sat. Coronal
None

Table position
Table position
Inline Composing
H
0 mm
Off

System

T1 On
M2 On
B4 On
M3 On
V32 Off
Positioning mode REF
MSMA S - C - T
Sagittal R >> L
Coronal A >> P
Transversal F >> H
Save uncombined Off
Coil Combine Mode Adaptive Combine
AutoAlign ---
Auto Coil Select Default

Shim mode Standard
Adjust with body coil Off
Confirm freq. adjustment Off
Assume Silicone Off
! Ref. amplitude 1H 220.000 V
Adjustment Tolerance Auto
Adjust volume
Position Isocenter
Orientation Transversal
Rotation 0.00 deg
R >> L 90 mm
A >> P 23 mm
F >> H 39 mm

Physio

1st Signal/Mode None

Composing

Sequence

Introduction Off
Dimension 3D
Reordering Centric
Contrasts 1
Bandwidth 1144 Hz/Px
Turbo factor 48
EPI factor 12
RF pulse type Normal
Gradient mode Fast
refocussing type sinc 2560
flip angle excit 90
phase encoding ON
Maxwell compensation Off
ICE program single
prepscans 0
actual ETL 14
excite duration 2560
refoc duration 2560
excite BWTP 12
refoc BWTP 8
Variable Flip Angle 01 80
Variable Flip Angle 02 39

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Variable Flip Angle 03	36
Variable Flip Angle 04	34
Variable Flip Angle 05	35
Variable Flip Angle 06	36
Variable Flip Angle 07	39
Variable Flip Angle 08	42
Variable Flip Angle 09	48
Variable Flip Angle 10	54
Variable Flip Angle 11	64
Variable Flip Angle 12	76
Variable Flip Angle 13	130
Variable Flip Angle 14	180
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_Regular

TA: 8:00

PAT: Off

Voxel size: 0.8x0.8x0.8 mm

Rel. SNR: 1.00

USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.80 mm
TR	3000 ms
TE	37.74 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	160
Pause after meas.	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat.

Coronal

None

Table position

H

Table position

0 mm

Inline Composing

Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	7 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Echo spacing	1 ms
Turbo factor	6
EPI factor	28
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepsans	0
excite duration	2560
refoc duration	2560
excite BWTP	12.0
refoc BWTP	8.0
T2 Validation	Off
pre-crusher	40000

post-crusher1	40000
post-crusher2	40000
post-crusher3	40000
post-crusher4	40000
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
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_VFA

TA: 8:00 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_clean_IV_Regular_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	18
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.80 mm
TR	3000 ms
TE	37.74 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	160
Pause after meas.	0.0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat. Coronal

Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	15 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Echo spacing	1 ms

Turbo factor	14
EPI factor	28
RF pulse type	Normal
Gradient mode	Fast

refocussing type	variable sinc
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepsans	0
excite duration	2560
refoc duration	2560
excite BWTP	12.0
refoc BWTP	8.0
T2 Validation	Off
pre-crusher	40000

post-crusher1	40000
post-crusher2	40000
post-crusher3	40000
post-crusher4	40000
Variable Flip Angle 01	90
Variable Flip Angle 02	49
Variable Flip Angle 03	45
Variable Flip Angle 04	43
Variable Flip Angle 05	43
Variable Flip Angle 06	43
Variable Flip Angle 07	42
Variable Flip Angle 08	43
Variable Flip Angle 09	46
Variable Flip Angle 10	51
Variable Flip Angle 11	58
Variable Flip Angle 12	67
Variable Flip Angle 13	77
Variable Flip Angle 14	90
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	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_CFA_SL18_ETL06

TA: 0:00 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	18
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	160
Pause after meas.	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat.

Coronal

None

Table position

H

Table position

0 mm

Inline Composing

Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	15 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Turbo factor	18
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prep scans	0
actual ETL	6
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	180
Variable Flip Angle 02	180

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Variable Flip Angle 03	180
Variable Flip Angle 04	180
Variable Flip Angle 05	180
Variable Flip Angle 06	180
Variable Flip Angle 07	120
Variable Flip Angle 08	150
Variable Flip Angle 09	170
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	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL24_ETL10

TA: 0:00

PAT: Off

Voxel size: 0.8x0.8x0.8 mm

Rel. SNR: 1.00

USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	24
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	160
Pause after meas.	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation

Special sat.

Coronal

None

Table position

H

Table position

0 mm

Inline Composing

Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	20 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Turbo factor	24
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepscans	0
actual ETL	10
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	80
Variable Flip Angle 02	43

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Variable Flip Angle 03	40
Variable Flip Angle 04	39
Variable Flip Angle 05	42
Variable Flip Angle 06	48
Variable Flip Angle 07	60
Variable Flip Angle 08	76
Variable Flip Angle 09	93
Variable Flip Angle 10	144
Variable Flip Angle 11	180
Variable Flip Angle 12	180
Variable Flip Angle 13	180
Variable Flip Angle 14	180
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL36_ETL14

TA: 0:00 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	36
FoV read	89.6 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	3000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	160
Pause after meas.	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter

Orientation	Coronal
Special sat.	None

Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	29 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
Turbo factor	36
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepscans	0
actual ETL	14
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	80
Variable Flip Angle 02	39

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Variable Flip Angle 03	36
Variable Flip Angle 04	34
Variable Flip Angle 05	35
Variable Flip Angle 06	36
Variable Flip Angle 07	39
Variable Flip Angle 08	42
Variable Flip Angle 09	48
Variable Flip Angle 10	54
Variable Flip Angle 11	64
Variable Flip Angle 12	76
Variable Flip Angle 13	130
Variable Flip Angle 14	180
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL36_TE22

TA: 0:00 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Rotation	90 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	36
FoV read	96 mm
FoV phase	30.0 %
Slice thickness	0.8 mm
TR	1500 ms
TE	22.44 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	48
Pause after meas. 1	0 s
Pause after meas. 2	0 s
Pause after meas. 3	0 s
Pause after meas. 4	0 s
Pause after meas. 5	0 s
Pause after meas. 6	0 s
Pause after meas. 7	0 s
Pause after meas. 8	0 s
Pause after meas. 9	0 s
Pause after meas. 10	0 s
Pause after meas. 11	0 s
Pause after meas. 12	0 s
Pause after meas. 13	0 s
Pause after meas. 14	0 s
Pause after meas. 15	0 s
Pause after meas. 16	0 s
Pause after meas. 17	0 s
Pause after meas. 18	0 s
Pause after meas. 19	0 s

Pause after meas. 20	0 s
Pause after meas. 21	0 s
Pause after meas. 22	0 s
Pause after meas. 23	0 s
Pause after meas. 24	0 s
Pause after meas. 25	0 s
Pause after meas. 26	0 s
Pause after meas. 27	0 s
Pause after meas. 28	0 s
Pause after meas. 29	0 s
Pause after meas. 30	0 s
Pause after meas. 31	0 s
Pause after meas. 32	0 s
Pause after meas. 33	0 s
Pause after meas. 34	0 s
Pause after meas. 35	0 s
Pause after meas. 36	0 s
Pause after meas. 37	0 s
Pause after meas. 38	0 s
Pause after meas. 39	0 s
Pause after meas. 40	0 s
Pause after meas. 41	0 s
Pause after meas. 42	0 s
Pause after meas. 43	0 s
Pause after meas. 44	0 s
Pause after meas. 45	0 s
Pause after meas. 46	0 s
Pause after meas. 47	0 s
Multiple series	Off

Resolution

Base resolution	120
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	26 mm
Position	Isocenter
Orientation	Sagittal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off

Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
<hr/>	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
A >> P	96 mm
R >> L	29 mm
F >> H	29 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1126 Hz/Px
<hr/>	
Turbo factor	36
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepScans	0
actual ETL	14
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	80
Variable Flip Angle 02	39
Variable Flip Angle 03	36
Variable Flip Angle 04	34
Variable Flip Angle 05	35
Variable Flip Angle 06	36
Variable Flip Angle 07	39
Variable Flip Angle 08	42
Variable Flip Angle 09	48
Variable Flip Angle 10	54
Variable Flip Angle 11	64
Variable Flip Angle 12	76
Variable Flip Angle 13	130
Variable Flip Angle 14	180
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL36_TE27

TA: 0:00 PAT: Off Voxel size: 0.8x0.8x0.8 mm Rel. SNR: 1.00 USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Rotation	90 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	36
FoV read	96 mm
FoV phase	30.0 %
Slice thickness	0.8 mm
TR	1500 ms
TE	27.04 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	48
Pause after meas. 1	0 s
Pause after meas. 2	0 s
Pause after meas. 3	0 s
Pause after meas. 4	0 s
Pause after meas. 5	0 s
Pause after meas. 6	0 s
Pause after meas. 7	0 s
Pause after meas. 8	0 s
Pause after meas. 9	0 s
Pause after meas. 10	0 s
Pause after meas. 11	0 s
Pause after meas. 12	0 s
Pause after meas. 13	0 s
Pause after meas. 14	0 s
Pause after meas. 15	0 s
Pause after meas. 16	0 s
Pause after meas. 17	0 s
Pause after meas. 18	0 s
Pause after meas. 19	0 s

Pause after meas. 20	0 s
Pause after meas. 21	0 s
Pause after meas. 22	0 s
Pause after meas. 23	0 s
Pause after meas. 24	0 s
Pause after meas. 25	0 s
Pause after meas. 26	0 s
Pause after meas. 27	0 s
Pause after meas. 28	0 s
Pause after meas. 29	0 s
Pause after meas. 30	0 s
Pause after meas. 31	0 s
Pause after meas. 32	0 s
Pause after meas. 33	0 s
Pause after meas. 34	0 s
Pause after meas. 35	0 s
Pause after meas. 36	0 s
Pause after meas. 37	0 s
Pause after meas. 38	0 s
Pause after meas. 39	0 s
Pause after meas. 40	0 s
Pause after meas. 41	0 s
Pause after meas. 42	0 s
Pause after meas. 43	0 s
Pause after meas. 44	0 s
Pause after meas. 45	0 s
Pause after meas. 46	0 s
Pause after meas. 47	0 s
Multiple series	Off

Resolution

Base resolution	120
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	26 mm
Position	Isocenter
Orientation	Sagittal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
<hr/>	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
A >> P	96 mm
R >> L	29 mm
F >> H	29 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1126 Hz/Px
<hr/>	
Turbo factor	36
EPI factor	16
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepScans	0
actual ETL	14
excite duration	2560
refoc duration	2560
excite BWTP	12
refoc BWTP	8
Variable Flip Angle 01	80
Variable Flip Angle 02	39
Variable Flip Angle 03	36
Variable Flip Angle 04	34
Variable Flip Angle 05	35
Variable Flip Angle 06	36
Variable Flip Angle 07	39
Variable Flip Angle 08	42
Variable Flip Angle 09	48
Variable Flip Angle 10	54
Variable Flip Angle 11	64
Variable Flip Angle 12	76
Variable Flip Angle 13	130
Variable Flip Angle 14	180
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_ep3D_bold_CAIPi_ICEoff_ChannelM2

TA: 4:50 PAT: 4 Voxel size: 0.9x0.9x0.9 mm Rel. SNR: 1.00 USER: BP_ep3D_bold_CAIPi_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	80
FoV read	198 mm
FoV phase	100.0 %
Slice thickness	0.90 mm
TR	50 ms
TE	20 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	M2

Contrast

MTC	Off
Flip angle	90 deg
Fat suppr.	None
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	92
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	210
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	4
Ref. lines PE	96
Accel. factor 3D	1
Ref. lines 3D	32
Reference scan mode	Separate
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On

Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	Off
M2	On
B4	Off
M3	Off
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	200.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	198 mm
A >> P	198 mm
F >> H	72 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	Off
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1254 Hz/Px
Free echo spacing	Off
Echo spacing	0.9 ms
EPI factor	210
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

FFT scale	1.00
z shim	0.00 mT/m*ms
RF duration	2560 us
RF BWTP	5.2
EFFECTIVE TR	3000 ms
PatPartitions	60
EPI phase correction	local
PAT refscan mode	segm LIN->PAR
use CAIPI	On
CAIPI shift kz	0
CAIPI shift ky	1
dummy prepscan time	3 s
silent gap	0.000 s

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_ep3D_bold_multiecho_new_SH_CAIPi_noICE

TA: 0:29

PAT: 4

Voxel size: 0.9x0.9x0.9 mm

Rel. SNR: 1.00

USER: BP_ep3D_bold_multiecho_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	80
FoV read	198 mm
FoV phase	100.0 %
Slice thickness	0.90 mm
TR	50 ms
TE	20 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	M2

Contrast

MTC	Off
Flip angle	13 deg
Fat suppr.	None
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	5
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	220
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	4
Ref. lines PE	96
Accel. factor 3D	1
Ref. lines 3D	32
Reference scan mode	Separate
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On

Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	Off
M2	On
B4	Off
M3	Off
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	200.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	198 mm
A >> P	198 mm
F >> H	72 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	Off
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1262 Hz/Px
Free echo spacing	Off
Echo spacing	0.9 ms
EPI factor	220
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

FFT scale	1.00
z shim	0.00 mT/m*ms
RF duration	2560 us
RF BWTP	5.2
EFFECTIVE TR	3000 ms
PatPartitions	60
EPI phase correction	local
PAT refscan mode	segm LIN->PAR
use CAIPI	On
CAIPI shift kz	0
CAIPI shift ky	1
dummy prepscan time	3 s
silent gap	0.000 s

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE_IV_CS_GRASE\BP_grase_clean_VASO_V10t_noClip

TA: 0:30 PAT: Off Voxel size: 0.8x0.8x1.5 mm Rel. SNR: 1.00 USER: BP_grase_clean_VASO_V10_noClip

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	R43.2 A10.6 H23.0
Orientation	T > S31.6 > C-3.3
Phase enc. dir.	A >> P
Rotation	-20.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	99 mm
FoV phase	25.8 %
Slice thickness	1.5 mm
TR	3000 ms
TE	45.9 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	Non-sel. IR
T1	1100 ms
Flip angle	165 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s
Multiple series	Off

Resolution

Base resolution	132
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	5/8
Interpolation	Off
PAT mode	None

Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	26 mm
Position	R1.4 P6.6 H0.7
Orientation	C > S25.3 > T6.2
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R43.2 A10.6 H23.0
Orientation	T > S31.6 > C-3.3
Rotation	-20.00 deg
R >> L	99 mm
A >> P	26 mm
F >> H	12 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	2
Bandwidth	1052 Hz/Px
Echo spacing	1.1 ms
Turbo factor	5
EPI factor	34
RF pulse type	Normal
Gradient mode	Fast
BIR4: 2nd segm phase	338
BIR4: duration	5120
excite duration	2560

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

refoc duration	2560
excite BWTP	10.4
refoc BWTP	5.2
phase encoding	ON
Maxwell compensation	Off
ICE program	single

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\VASO_116_phantom

TA: 0:30 PAT: 2 Voxel size: 0.7x0.7x1.5 mm Rel. SNR: 1.00 USER: VASO_116

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	R37.8 A6.9 H16.3
Orientation	T > S25.8 > C-11.1
Phase enc. dir.	R >> L
Rotation	70.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	8
FoV read	32.8 mm
FoV phase	300.0 %
Slice thickness	1.50 mm
TR	1500.00 ms
TE	24 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Perfusion mode	Picore Q2TIPS
TI2	900 ms
TI1	50 ms
TI1s	50 ms
Flip angle	26 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magn./Phase
Measurements	20
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	900.0 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	44
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	36
Accel. factor 3D	1
Ref. lines 3D	8
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	230.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R37.8 A6.9 H16.3
Orientation	T > S25.8 > C-11.1
Rotation	160.00 deg
R >> L	99 mm
A >> P	33 mm
F >> H	12 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1062 Hz/Px
Free echo spacing	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Echo spacing	1.07 ms
EPI factor	132
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On
Ampl	120
BWDTH	150 3.1kHz
ph.skip 4 Robert (the one)	30
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off
FFT scale	1.00
dummy prepscan time	3 s
z shim	0.00 mT/m*ms
RF duration	2560 us
RF BWTP	25.0
Renzo: Delta TI	71 ms
EFFECTIVE TR	12000 ms
PatPartitions	8
EPI phase correction	local
PAT refscan mode	Flash
FlashRef BaseRes	44
FlashRef BW	136 Hz/px
FlashRef TE	5000 us
FlashRef FA	5 deg
use CAIPI	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL36_ETL14_TE22_TR12

TA: 0:00

PAT: Off

Voxel size: 0.8x0.8x0.8 mm

Rel. SNR: 1.00

USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	36
FoV read	90 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	1200 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	48
Pause after meas. 1	0 s
Pause after meas. 2	0 s
Pause after meas. 3	0 s
Pause after meas. 4	0 s
Pause after meas. 5	0 s
Pause after meas. 6	0 s
Pause after meas. 7	0 s
Pause after meas. 8	0 s
Pause after meas. 9	0 s
Pause after meas. 10	0 s
Pause after meas. 11	0 s
Pause after meas. 12	0 s
Pause after meas. 13	0 s
Pause after meas. 14	0 s
Pause after meas. 15	0 s
Pause after meas. 16	0 s
Pause after meas. 17	0 s
Pause after meas. 18	0 s
Pause after meas. 19	0 s

Pause after meas. 20	0 s
Pause after meas. 21	0 s
Pause after meas. 22	0 s
Pause after meas. 23	0 s
Pause after meas. 24	0 s
Pause after meas. 25	0 s
Pause after meas. 26	0 s
Pause after meas. 27	0 s
Pause after meas. 28	0 s
Pause after meas. 29	0 s
Pause after meas. 30	0 s
Pause after meas. 31	0 s
Pause after meas. 32	0 s
Pause after meas. 33	0 s
Pause after meas. 34	0 s
Pause after meas. 35	0 s
Pause after meas. 36	0 s
Pause after meas. 37	0 s
Pause after meas. 38	0 s
Pause after meas. 39	0 s
Pause after meas. 40	0 s
Pause after meas. 41	0 s
Pause after meas. 42	0 s
Pause after meas. 43	0 s
Pause after meas. 44	0 s
Pause after meas. 45	0 s
Pause after meas. 46	0 s
Pause after meas. 47	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter
Orientation	Coronal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
<hr/>	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	29 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
<hr/>	
Turbo factor	36
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepScans	0
actual ETL	12
excite duration	2560
refoc duration	2560
excite BWTP	14
refoc BWTP	8
Variable Flip Angle 01	64
Variable Flip Angle 02	35
Variable Flip Angle 03	32
Variable Flip Angle 04	31
Variable Flip Angle 05	33
Variable Flip Angle 06	35
Variable Flip Angle 07	39
Variable Flip Angle 08	45
Variable Flip Angle 09	50
Variable Flip Angle 10	62
Variable Flip Angle 11	78
Variable Flip Angle 12	128
Variable Flip Angle 13	72
Variable Flip Angle 14	122
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_grase_IV_CS_VFA_SL36_ETL14_TE22_TR20

TA: 0:00

PAT: Off

Voxel size: 0.8x0.8x0.8 mm

Rel. SNR: 1.00

USER: BP_grase_IV_CS_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	0 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	36
FoV read	90 mm
FoV phase	25.0 %
Slice thickness	0.8 mm
TR	2000 ms
TE	22.82 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

Magn. preparation	None
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	48
Pause after meas. 1	0 s
Pause after meas. 2	0 s
Pause after meas. 3	0 s
Pause after meas. 4	0 s
Pause after meas. 5	0 s
Pause after meas. 6	0 s
Pause after meas. 7	0 s
Pause after meas. 8	0 s
Pause after meas. 9	0 s
Pause after meas. 10	0 s
Pause after meas. 11	0 s
Pause after meas. 12	0 s
Pause after meas. 13	0 s
Pause after meas. 14	0 s
Pause after meas. 15	0 s
Pause after meas. 16	0 s
Pause after meas. 17	0 s
Pause after meas. 18	0 s
Pause after meas. 19	0 s

Pause after meas. 20	0 s
Pause after meas. 21	0 s
Pause after meas. 22	0 s
Pause after meas. 23	0 s
Pause after meas. 24	0 s
Pause after meas. 25	0 s
Pause after meas. 26	0 s
Pause after meas. 27	0 s
Pause after meas. 28	0 s
Pause after meas. 29	0 s
Pause after meas. 30	0 s
Pause after meas. 31	0 s
Pause after meas. 32	0 s
Pause after meas. 33	0 s
Pause after meas. 34	0 s
Pause after meas. 35	0 s
Pause after meas. 36	0 s
Pause after meas. 37	0 s
Pause after meas. 38	0 s
Pause after meas. 39	0 s
Pause after meas. 40	0 s
Pause after meas. 41	0 s
Pause after meas. 42	0 s
Pause after meas. 43	0 s
Pause after meas. 44	0 s
Pause after meas. 45	0 s
Pause after meas. 46	0 s
Pause after meas. 47	0 s
Multiple series	Off

Resolution

Base resolution	112
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
PAT mode	None
Prescan Normalize	Off
Raw filter	Off

Geometry

Series	Interleaved
Sat. region 1	
Thickness	20 mm
Position	Isocenter
Orientation	Coronal
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off

Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
<hr/>	
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	90 mm
A >> P	23 mm
F >> H	29 mm

Physio

1st Signal/Mode	None
-----------------	------

Composing

Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	1144 Hz/Px
<hr/>	
Turbo factor	36
EPI factor	12
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
refocussing type	sinc 2560
flip angle excit	90
phase encoding	ON
Maxwell compensation	Off
ICE program	single
prepScans	0
actual ETL	12
excite duration	2560
refoc duration	2560
excite BWTP	14
refoc BWTP	8
Variable Flip Angle 01	64
Variable Flip Angle 02	35
Variable Flip Angle 03	32
Variable Flip Angle 04	31
Variable Flip Angle 05	33
Variable Flip Angle 06	35
Variable Flip Angle 07	39
Variable Flip Angle 08	45
Variable Flip Angle 09	50
Variable Flip Angle 10	62
Variable Flip Angle 11	78
Variable Flip Angle 12	128
Variable Flip Angle 13	72
Variable Flip Angle 14	122
Crusher Gr	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\GE_p8mm_MB1IPAT3_pf6_te23_tr1505_sat_PIFrSn_3

TA: 0:29 PAT: 3 Voxel size: 1.0x1.0x0.8 mm Rel. SNR: 1.00 USER: AV_ep2d_bold_sd_20140727

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slice group 1	
Slices	21
Dist. factor	0 %
Position	L2.1 A10.0 F9.9
Orientation	T > C29.9
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	215 mm
FoV phase	77.7 %
Slice thickness	0.80 mm
TR	3000 ms
TE	23.4 ms
Multi-band accel. factor	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	5
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	224
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	48
Reference scan mode	GRE
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved

Sat. region 1

Thickness	50 mm
Position	L10.9 A51.7 F73.1
Orientation	T > C-33.5 > S4.0
Special sat.	None

Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off

Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	On
Assume Silicone	Off
! Ref. amplitude 1H	230.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L2.1 A10.0 F9.9
Orientation	T > C29.9
Rotation	0.00 deg
R >> L	215 mm
A >> P	168 mm
F >> H	17 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

GLM Statistics	Off
Dynamic t-maps	Off
Starting ignore meas	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	12
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Motion correction	Off
Spatial filter	Off

Sequence

Introduction	Off
Bandwidth	1174 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	1 ms
<hr/>	
SIR accel. factor	1
EPI factor	174
Gradient mode	Normal
RF spoiling	Off
<hr/>	
Excite pulse duration	3640 us
Slice multiplier	1
Fake MB factor for SB	1
No. of interleaved TEs	0
RF pulse shape	1
EPI noise scans	0
EPI full reference scan	0
SENSE1 coil combine	Off
Log physiology to file	Off
Invert RO/PE polarity	Off
Save reduced raw data	Off
Readout slice trace	Off
Disable ramp sampling	Off
PF omits higher k-space	Off
FFT scale factor	0.10
GRE iPAT ref. FA	12.0 deg
Send B1 shim trigger	Never
Triggering scheme	Standard
Starting ignore meas	0
Paradigm size	2
Multiplier	1
Step [1]	1
Step [2]	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE_IV_CS_GRASE\BP_ep3D_bold_multiecho_new_SH_noCAIPI
TA: 0:35 PAT: 4 Voxel size: 1.0x1.0x0.9 mm Rel. SNR: 1.00 USER: BP_ep3D_bold_multiecho_SH

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	104
FoV read	215 mm
FoV phase	100.0 %
Slice thickness	0.90 mm
TR	52 ms
TE	20 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

Contrast

MTC	Off
Flip angle	13 deg
Fat suppr.	None
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	5
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	220
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	4
Ref. lines PE	96
Accel. factor 3D	1
Ref. lines 3D	32
Reference scan mode	Separate
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On

Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

T1	On
M2	On
B4	On
M3	On
V32	Off
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	200.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	215 mm
A >> P	215 mm
F >> H	94 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	Off
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1136 Hz/Px
Free echo spacing	Off
Echo spacing	0.98 ms
EPI factor	220
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

FFT scale	1.00
z shim	0.00 mT/m*ms
RF duration	2560 us
RF BWTP	5.2
EFFECTIVE TR	4056 ms
PatPartitions	78
EPI phase correction	local
PAT refscan mode	segm LIN->PAR
use CAIPI	Off
dummy prepscan time	3 s
silent gap	0.000 s

Table of contents

\\USER

Feinberglab

Suhjung

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