

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE\localizer\_50V\_newcoil

TA: 1:06 PAT: Off Voxel size: 2.5x1.9x2.0 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

Slab group 1	
Slabs	1
Dist. factor	20 %
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	240 mm
FoV phase	84.4 %
Slice thickness	2.00 mm
TR	10.0 ms
TE	3.69 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	L10-24;LV1-9

## Contrast

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	128
Phase resolution	74 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
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

LV1	On
LV2	On
LV3	On
LV4	On
LV5	On
LV6	On
LV7	On
LV8	On
LV9	On
L10	On
L11	On
L12	On
L13	On
L14	On
L15	On
L16	On
L17	On
L18	On
L19	On
L20	On
L21	On
L22	On
L23	On
L24	On

## 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	50.000 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
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# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

Segments	1
Tagging	None
Dark blood	Off
Resp. control	Off

## Inline

Subtract	Off
Liver registration	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
MapIt	None
Contrasts	1

## Sequence

Introduction	On
Dimension	3D
Elliptical scanning	Off
Phase stabilisation	Off
Asymmetric echo	Off
Bandwidth	320 Hz/Px
Flow comp.	No
RF pulse type	Normal
Gradient mode	Whisper
Excitation	Slab-sel.
RF spoiling	On

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE\grase3d\_reference

TA: 0:12

Voxel size: 2.5x2.5x2.0 mm

Rel. SNR: 1.00

USER: grase3d\_tmp

## 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	80
FoV read	240 mm
FoV phase	84.2 %
Slice thickness	2.0 mm
TR	3000 ms
TE	49.4 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

## Contrast

Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	96
Phase resolution	99 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
Prescan Normalize	Off
Raw filter	Off

## Geometry

Series	Interleaved
Sat. region 1	
Thickness	60 mm
Position	Isocenter
Orientation	Transversal
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	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	240 mm
A >> P	202 mm
F >> H	160 mm

## Physio

1st Signal/Mode	None
Segments	4

## Composing

## Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	2264 Hz/Px
Echo spacing	0.6 ms
Turbo factor	20
EPI factor	80
RF pulse type	Normal
Gradient mode	Fast
ASL mode	fASL non-selective
Pre sat	Off
Post sat	Off
manual LABEL/SAT region	Off
Saturation mode	const 90
Background Suppr	NOBackgroundsupp
BS parameter_1	700 ms
BS parameter_2	100 ms
FOCI parameter_0	800
FOCI parameter_1	24
FOCI parameter_2	1.0
FOCI parameter_3	2000
FOCI parameter_4	0.500
Additional scaling factor	10.0
Distribution Mode	Equal

## SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

z-spoiling	equal
Start of time series	1700 ms
Increment time series	100 ms
Length of time series	1
Bolus length	1400 ms
Number of echoes	1

## SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\Feinberglab\Suhjung\GRASE\grase3d\_cs\_SH

TA: 1:36

Voxel size: 2.5x2.5x2.0 mm

Rel. SNR: 1.00

USER: grase3d\_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	80
FoV read	240 mm
FoV phase	84.2 %
Slice thickness	2.0 mm
TR	3000 ms
TE	46.2 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

## Contrast

Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
<hr/>	
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	32
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
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s

Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Multiple series	Each measurement

## Resolution

Base resolution	96
Phase resolution	99 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
<hr/>	
Prescan Normalize	Off
Raw filter	Off

## Geometry

Series	Interleaved
<hr/>	
Sat. region 1	
Thickness	60 mm
Position	Isocenter
Orientation	Transversal
Special sat.	None
<hr/>	
Table position	H
Table position	0 mm
Inline Composing	Off

## System

T1	On
M2	On
B4	On
M3	On
V32	Off
<hr/>	
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	0.00 deg
R >> L	240 mm
A >> P	202 mm
F >> H	160 mm

## Physio

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

1st Signal/Mode	None
Segments	1

## Composing

### Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	2264 Hz/Px
Echo spacing	0.5 ms
<hr/>	
Turbo factor	80
EPI factor	80
RF pulse type	Normal
Gradient mode	Fast
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ASL mode	fASL slice-selective
Pre sat	Off
Post sat	Off
manual LABEL/SAT region	Off
Saturation mode	const 90
Background Suppr	NOBackgroundsupp
BS parameter_1	700 ms
BS parameter_2	100 ms
FOCI parameter_0	800
FOCI parameter_1	24
FOCI parameter_2	1.0
FOCI parameter_3	2000
FOCI parameter_4	0.500
Additional scaling factor	10.0
Distribution Mode	Equal
z-spoiling	equal
Start of time series	1700 ms
Increment time series	100 ms
Length of time series	1
Bolus length	1400 ms
Number of echoes	1

## SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE\grase3d\_cspf\_SH

TA: 1:36

Voxel size: 2.5x2.5x2.0 mm

Rel. SNR: 1.00

USER: grase3d\_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	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	80
FoV read	240 mm
FoV phase	84.2 %
Slice thickness	2.0 mm
TR	3000 ms
TE	46.2 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

## Contrast

Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
<hr/>	
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	32
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
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s

Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Multiple series	Each measurement

## Resolution

Base resolution	96
Phase resolution	99 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Interpolation	Off
<hr/>	
Prescan Normalize	Off
Raw filter	Off

## Geometry

Series	Interleaved
<hr/>	
Sat. region 1	
Thickness	60 mm
Position	Isocenter
Orientation	Transversal
Special sat.	None
<hr/>	
Table position	H
Table position	0 mm
Inline Composing	Off

## System

T1	On
M2	On
B4	On
M3	On
V32	Off
<hr/>	
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	0.00 deg
R >> L	240 mm
A >> P	202 mm
F >> H	160 mm

## Physio

1st Signal/Mode	None
Segments	1

## Composing

## Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	2264 Hz/Px
Echo spacing	0.5 ms
<hr/>	
Turbo factor	80
EPI factor	80
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
ASL mode	fASL slice-selective
Pre sat	Off
Post sat	Off
manual LABEL/SAT region	Off
Saturation mode	const 90
Background Suppr	NOBackgroundsupp
BS parameter_1	700 ms
BS parameter_2	100 ms
FOCI parameter_0	800
FOCI parameter_1	24
FOCI parameter_2	1.0
FOCI parameter_3	2000
FOCI parameter_4	0.500
Additional scaling factor	10.0
Distribution Mode	Equal
z-spoiling	equal
Start of time series	1700 ms
Increment time series	100 ms
Length of time series	1
Bolus length	1400 ms
Number of echoes	1



# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE\grase3d\_cs\_ms\_SH

TA: 3:12

Voxel size: 2.5x2.5x2.0 mm

Rel. SNR: 1.00

USER: grase3d\_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	80
FoV read	240 mm
FoV phase	84.2 %
Slice thickness	2.0 mm
TR	3000 ms
TE	47.8 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

## Contrast

Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	32
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
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s

Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Multiple series	Each measurement

## Resolution

Base resolution	96
Phase resolution	99 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
Prescan Normalize	Off
Raw filter	Off

## Geometry

Series	Interleaved
Sat. region 1	
Thickness	60 mm
Position	Isocenter
Orientation	Transversal
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	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	240 mm
A >> P	202 mm
F >> H	160 mm

## Physio

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

1st Signal/Mode	None
Segments	2

## Composing

### Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	2264 Hz/Px
Echo spacing	0.5 ms
<hr/>	
Turbo factor	40
EPI factor	80
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
ASL mode	fASL slice-selective
Pre sat	Off
Post sat	Off
manual LABEL/SAT region	Off
Saturation mode	const 90
Background Suppr	NOBackgroundsupp
BS parameter_1	700 ms
BS parameter_2	100 ms
FOCI parameter_0	800
FOCI parameter_1	24
FOCI parameter_2	1.0
FOCI parameter_3	2000
FOCI parameter_4	0.500
Additional scaling factor	10.0
Distribution Mode	Equal
z-spoiling	equal
Start of time series	1700 ms
Increment time series	100 ms
Length of time series	1
Bolus length	1400 ms
Number of echoes	1

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE\grase3d\_cspf\_ms\_SH

TA: 3:12

Voxel size: 2.5x2.5x2.0 mm

Rel. SNR: 1.00

USER: grase3d\_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	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	80
FoV read	240 mm
FoV phase	84.2 %
Slice thickness	2.0 mm
TR	3000 ms
TE	47.8 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

## Contrast

Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	32
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
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s

Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Multiple series	Each measurement

## Resolution

Base resolution	96
Phase resolution	99 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Interpolation	Off
Prescan Normalize	Off
Raw filter	Off

## Geometry

Series	Interleaved
Sat. region 1	
Thickness	60 mm
Position	Isocenter
Orientation	Transversal
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	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	240 mm
A >> P	202 mm
F >> H	160 mm

## Physio

1st Signal/Mode	None
Segments	2

## Composing

## Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	2264 Hz/Px
Echo spacing	0.5 ms
<hr/>	
Turbo factor	40
EPI factor	80
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
ASL mode	fASL slice-selective
Pre sat	Off
Post sat	Off
manual LABEL/SAT region	Off
Saturation mode	const 90
Background Suppr	NOBackgroundsupp
BS parameter_1	700 ms
BS parameter_2	100 ms
FOCI parameter_0	800
FOCI parameter_1	24
FOCI parameter_2	1.0
FOCI parameter_3	2000
FOCI parameter_4	0.500
Additional scaling factor	10.0
Distribution Mode	Equal
z-spoiling	equal
Start of time series	1700 ms
Increment time series	100 ms
Length of time series	1
Bolus length	1400 ms
Number of echoes	1

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\Feinberglab\Suhying\GRASE\grase3d\_reference\_res15

TA: 0:22

Voxel size: 1.5x1.5x1.5 mm

Rel. SNR: 1.00

USER: grase3d\_tmp

## 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	25.0 %
Slices per slab	64
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.5 mm
TR	2700 ms
TE	47.64 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

## Contrast

Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	128
Phase resolution	100 %
Slice resolution	100 %
Slice partial Fourier	Off
Interpolation	Off
Prescan Normalize	Off
Raw filter	Off

## Geometry

Series	Interleaved
Sat. region 1	
Thickness	60 mm
Position	Isocenter
Orientation	Transversal
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	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	192 mm
A >> P	192 mm
F >> H	96 mm

## Physio

1st Signal/Mode	None
Segments	8

## Composing

## Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	2298 Hz/Px
Echo spacing	0.7 ms
Turbo factor	20
EPI factor	64
RF pulse type	Normal
Gradient mode	Fast
ASL mode	fASL non-selective
Pre sat	Off
Post sat	Off
manual LABEL/SAT region	Off
Saturation mode	const 90
Background Suppr	NOBackgroundsupp
BS parameter_1	700 ms
BS parameter_2	100 ms
FOCI parameter_0	800
FOCI parameter_1	24
FOCI parameter_2	1.0
FOCI parameter_3	2000
FOCI parameter_4	0.500
Additional scaling factor	10.0
Distribution Mode	Equal

## SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

z-spoiling	equal
Start of time series	1700 ms
Increment time series	100 ms
Length of time series	1
Bolus length	1400 ms
Number of echoes	1

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\Feinberglab\Suhyung\GRASE\grase3d\_cspf\_ms\_res15\_SH

TA: 2:21

Voxel size: 1.5x1.5x1.5 mm

Rel. SNR: 1.00

USER: grase3d\_cspf\_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	25.0 %
Slices per slab	64
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.5 mm
TR	2200 ms
TE	47.64 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	B4;M2,3;T1

## Contrast

Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	32
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
Pause after meas. 10	0.0 s
Pause after meas. 11	0.0 s
Pause after meas. 12	0.0 s
Pause after meas. 13	0.0 s
Pause after meas. 14	0.0 s
Pause after meas. 15	0.0 s
Pause after meas. 16	0.0 s
Pause after meas. 17	0.0 s
Pause after meas. 18	0.0 s
Pause after meas. 19	0.0 s
Pause after meas. 20	0.0 s

Pause after meas. 21	0.0 s
Pause after meas. 22	0.0 s
Pause after meas. 23	0.0 s
Pause after meas. 24	0.0 s
Pause after meas. 25	0.0 s
Pause after meas. 26	0.0 s
Pause after meas. 27	0.0 s
Pause after meas. 28	0.0 s
Pause after meas. 29	0.0 s
Pause after meas. 30	0.0 s
Pause after meas. 31	0.0 s
Multiple series	Each measurement

## Resolution

Base resolution	128
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Interpolation	Off
Prescan Normalize	Off
Raw filter	Off

## Geometry

Series	Interleaved
Sat. region 1	
Thickness	60 mm
Position	Isocenter
Orientation	Transversal
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	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	192 mm
A >> P	192 mm
F >> H	96 mm

## Physio

1st Signal/Mode	None
Segments	4

## Composing

## Sequence

Introduction	Off
Dimension	3D
Reordering	Centric
Contrasts	1
Bandwidth	2298 Hz/Px
Echo spacing	0.7 ms
<hr/>	
Turbo factor	40
EPI factor	64
RF pulse type	Normal
Gradient mode	Fast
<hr/>	
ASL mode	fASL slice-selective
Pre sat	Off
Post sat	Off
manual LABEL/SAT region	Off
Saturation mode	const 90
Background Suppr	NOBackgroundsupp
BS parameter_1	700 ms
BS parameter_2	100 ms
FOCI parameter_0	800
FOCI parameter_1	24
FOCI parameter_2	1.0
FOCI parameter_3	2000
FOCI parameter_4	0.500
Additional scaling factor	10.0
Distribution Mode	Equal
z-spoiling	equal
Start of time series	1700 ms
Increment time series	100 ms
Length of time series	1
Bolus length	1400 ms
Number of echoes	1



## Table of contents

\\USER

Feinberglab

Suhyung

GRASE

localizer\_50V\_newcoil

grase3d\_reference

grase3d\_cs\_SH

grase3d\_cspf\_SH

grase3d\_cs\_ms\_SH

grase3d\_cspf\_ms\_SH

grase3d\_reference\_res15

grase3d\_cspf\_ms\_res15\_SH