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\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\scout_axial

TA: 17 sec Coil Selection: Manual Voxel Size: 1.6×1.6×1.6 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	On
Graphic segment	3rd Segment
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	160
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.600 mm
TR	3.6 ms
TE	1.56 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	3.6 ms
TE	1.56 ms
MTC	Off
Magn. Preparation	None
Flip Angle	15 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
SWI	Off
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.600 mm
Base Resolution	160
Phase Resolution	100 %
Slice Resolution	69 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	24
Acceleration Factor 3D	1
Phase Partial Fourier	6/8
Slice Partial Fourier	6/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	3D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	160
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.600 mm
TR	3.6 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	L0.0 A16.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A16.0 H0.0
L	0.0 mm
A	16.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard
Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	L0.0 A36.7 F31.6 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	263 mm
! R >> L	350 mm
! F >> H	350 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Non-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz

System - Tx/Rx

! Ref. Amplitude 1H	250.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3.6 ms
Segments	1
Concatenations	1

Physio - Cardiac

Tagging	None
Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FOV Read	260 mm
FOV Phase	100.0 %
Phase Resolution	100 %

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Soft Tissue

Wash-in	Off
Wash-out	Off
TTP	Off
PEI	Off
MIP Time	Off
Measurements	1

Inline - Composing

Inline - MapIt

MapIt	None
Flip Angle	15 deg
Measurements	1
Contrasts	1
TE	1.56 ms
TR	3.6 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Non-sel.
RF Pulse Type	Fast
Gradient Mode	Normal
Flow Compensation	None
Bandwidth	540 Hz/Px
Asymmetric Echo	Off
Segments	1

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Acoustic noise reduction	Off

Sequence - Nuclei

TX/RX Nucleus	1H
TX/RX Delta Frequency	0 Hz
TX Nucleus	None
TX Delta Frequency	0 Hz
Coil Elements	AC

Sequence - Special

Readout polarity	Positive
Image processing	Standard
Apply echo spacing	Off
Echo spacing	0 us
Delta echo spacing	0 us
Dummy scans	0 ms
RF pulse duration	100 us
Gradient spoiling	Siemens
Gradient moment factor	1.00
Receiver gain mode	Siemens
Number of segments	1
Current segment	0
Lines before/after seg	0

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\scout_sag

TA: 14 sec Coil Selection: Auto Voxel Size: 1.6×1.6×1.6 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	On
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	On
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Slices per Slab	128
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.6 mm
TR	3.25 ms
TE	1.53 ms
Averages	1
Concatenations	1
AutoAlign	Head

Contrast - Common

TR	3.25 ms
TE	1.53 ms
Flip Angle	16 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Time to Center	6.3 s

Resolution - Common

FOV Read	260 mm

Resolution - Common

FOV Phase	100.0 %
Slice Thickness	1.6 mm
Base Resolution	160
Phase Resolution	100 %
Slice Resolution	69 %
Trajectory	Cartesian

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	24
Acceleration Factor 3D	1
Phase Partial Fourier	6/8
Slice Partial Fourier	6/8
Asymmetric Echo	Weak

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	3D
Normalize	B1 Filter
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Slices per Slab	128
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.6 mm
TR	3.25 ms
Multi-Slice Mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	L0.0 A16.0 H0.0 mm
Orientation	Sagittal
Phase Encoding Dir.	A >> P
AutoAlign	Head
Initial Position	L0.0 A16.0 H0.0

Geometry - AutoAlign

L	0.0 mm
A	16.0 mm
H	0.0 mm
Initial Orientation	Sagittal
Initial Rotation	0.00 deg

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	L0.0 A36.7 F31.6 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	263 mm
! R >> L	350 mm
! F >> H	350 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Non-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline - MapIt

MapIt	None
Flip Angle	16 deg
Measurements	1
Contrasts	1
TE	1.53 ms
TR	3.25 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Non-sel.
RF Pulse Type	Fast
Gradient Mode	Normal
Bandwidth	540 Hz/Px
Asymmetric Echo	Weak

Sequence - Part 2

Introduction	On
RF Spoiling	On
Breast Application	Off
Phase Enc. Order	Automatic

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\rslh_ep3d_vaso_Shahin

TA: 38 sec Coil Selection: Manual Voxel Size: 1.0×1.0×1.0 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	74.8 ms
Vol. TR	2393.6 ms
TE 1	25.80 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	74.8 ms
Vol. TR	2393.6 ms
TE 1	25.80 ms
Multi-echo spacing	70.10 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Magn. Prep. Shots	1
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	5
Reordering	Linear

Resolution - Common

FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
Base Resolution	180
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	128
Acceleration Factor 3D	4
Reference Lines 3D	24
Reordering Shift 3D	2
Phase Partial Fourier	6/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	74.8 ms
Vol. TR	2393.6 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter

Geometry - AutoAlign

Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	163 mm
! R >> L	180 mm
! F >> H	38 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
! Ref. Amplitude 1H	250.000 V
Reset	Off
Correction Factor	1.00

System - Tx/Rx

Image Scaling	1.000

Sequence - Part 1

Sequence Name	vaso a2d6453
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	1068 Hz/Px
Echo Spacing	1.02 ms
Turbo Factor	32
Segmentation	2
EPI Factor	68

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

RF duration	1200 us
RF time x BW	8
PAT ref. FA	3 deg
Fat sat. FA	110 deg
T1 (Ernst FA)	1200 ms
Invert PE	Off
Min. TE w/ PF	On
Ramp Sampling	On
Trigger per shot	Off
Noise image	Off
Relax spoilers	On
Round up Vol. TR	Off
MT flip angle	500 deg
MT off-res.	2000 Hz
MT RF duration	10240 us
Custom Water Exc.	-none-
Phase Correction	per Series
Saturation RF	per Shot
EPI rise time factor	1.00
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional
Read polarity	Dual-polarity

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\3d_EPI_44sl_TR3_0p8mm_Kaisu

TA: 14 sec Coil Selection: Auto Voxel Size: 0.8×0.8×0.8 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	44
Slice Oversampling	18.2 %
FOV Read	179 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	55.8 ms
Vol. TR	2901.6 ms
TE 1	24.70 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---

Contrast - Common

TR	55.8 ms
Vol. TR	2901.6 ms
TE 1	24.70 ms
Multi-echo spacing	49.10 ms
MTC	Off
Flip Angle	14 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	2
Pause after Meas. 1	0.0 s
Reordering	Linear

Resolution - Common

FOV Read	179 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
Base Resolution	212
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
CAIPIRINHA Mode	Free
Reference Scans	EPI/Separate
Acceleration Factor PE	2
Reference Lines PE	48
Acceleration Factor 3D	2
Reference Lines 3D	24
Reordering Shift 3D	1
Phase Partial Fourier	7/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	44
Slice Oversampling	18.2 %
FOV Read	179 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	55.8 ms
Vol. TR	2901.6 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8

Geometry - AutoAlign

R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	7 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P0.0 H6.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Part 1

Sequence Name	ep 256d7d0
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1124 Hz/Px
Echo Spacing	1.02 ms
Segmentation	2
EPI Factor	47

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

PAT ref. FA	5 deg
RF duration	4000 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	100
Volume dummy shots	0
Noise dummy shots	-1
CHECK FLIP ANGLE!	On
Integrated PC	Off
Invert PE	Off
Min. TE w/ PF	On
Dual-polarity	Off
Ramp Sampling	On
Ext. trigger/shot	Off
Water Exc.	-none-
Phase Correction	per Series
EPI rise time factor	1.09
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\ep2d_pace_tra_p3_s2_orig

TA: 7:35 min Coil Selection: Auto Voxel Size: 1.4×1.4×1.4 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	On
Load Images to Graphic Segments	On
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	84
Distance Factor	0 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	224 mm
FOV Phase	100.0 %
Slice Thickness	1.4 mm
TR	4320.0 ms
TE	22.00 ms
Averages	1
Concatenations	1
AutoAlign	Head > Brain

Contrast - Common

TR	4320.0 ms
TE	22.00 ms
MTC	Off
Flip Angle	90 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	100
Delay in TR	0.00 ms

Resolution - Common

FOV Read	224 mm
FOV Phase	100.0 %
Slice Thickness	1.4 mm

Resolution - Common

Base Resolution	160
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	EPI/Separate
Acceleration Factor PE	3
Reference Lines PE	36
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	84
Distance Factor	0 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	224 mm
FOV Phase	100.0 %
Slice Thickness	1.4 mm
TR	4320.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	Head > Brain
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	224 mm
R >> L	224 mm
F >> H	118 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	4320.0 ms
Log Signals	Off
Concatenations	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	0
Ignore After Transition	0
Model Transition States	On

BOLD

Temp. Highpass Filter	On
Threshold	4.00
Paradigm Size	20
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
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion Correction	On
Spatial Filter	Off
Measurements	100
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Fast
Gradient Mode	Fast
Bandwidth	1838 Hz/Px
Echo Spacing	0.63 ms
Free Echo Spacing	Off
EPI Factor	160

Sequence - Part 2

Introduction	On

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\rslh_ep3d_0.39_FRISGO

TA: 30 sec Coil Selection: Manual Voxel Size: 0.4×0.4×0.4 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	L0.0 P61.6 H36.1 mm
Orientation	C > T-43.7
Phase Encoding Dir.	H >> F
Slices per Slab	18
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
TR	49.5 ms
Vol. TR	3564 ms
TE 1	17.60 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	49.5 ms
Vol. TR	3564 ms
TE 1	17.60 ms
Multi-echo spacing	41.40 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Magn. Prep. Shots	1
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	2
Reordering	Linear

Resolution - Common

FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
Base Resolution	356
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	75
Acceleration Factor 3D	3
Reference Lines 3D	18
Reordering Shift 3D	2
Phase Partial Fourier	6/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	L0.0 P61.6 H36.1 mm
Orientation	C > T-43.7
Phase Encoding Dir.	H >> F
Slices per Slab	18
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
TR	49.5 ms
Vol. TR	3564 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	L0.0 P61.6 H36.1 mm

Geometry - AutoAlign

Orientation	C > T-43.7
Phase Encoding Dir.	H >> F
AutoAlign	---
Initial Position	L0.0 P61.6 H36.1
L	0.0 mm
P	61.6 mm
H	36.1 mm
Initial Orientation	C > T
C > T	-43.70
> S	0.00
Initial Rotation	-90.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	L0.6 P64.1 H36.7 mm
! Orientation	C > T-34.8
! Rotation	-90.00 deg
! F >> H	104 mm
! R >> L	180 mm
! A >> P	42 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V

System - Tx/Rx

Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	vaso a2d6453
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	668 Hz/Px
Echo Spacing	1.72 ms
Turbo Factor	72
Segmentation	12
EPI Factor	23

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

RF duration	1500 us
RF time x BW	8
PAT ref. FA	3 deg
Fat sat. FA	110 deg
T1 (Ernst FA)	1200 ms
Invert PE	Off
Min. TE w/ PF	On
Ramp Sampling	On
Trigger per shot	Off
Noise image	Off
Relax spoilers	Off
Round up Vol. TR	Off
MT flip angle	500 deg
MT off-res.	2000 Hz
MT RF duration	10240 us
Custom Water Exc.	-none-
Phase Correction	per Series
Saturation RF	per Shot
EPI rise time factor	1.43
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional
Read polarity	Dual-polarity

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\rslh_ep3d_vaso_Shahin_tSNR_connected

TA: 3:05 min Coil Selection: Manual Voxel Size: 1.0×1.0×1.0 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Slices per Slab	64
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	51.2 ms
Vol. TR	3276.8 ms
TE 1	25.00 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	51.2 ms
Vol. TR	3276.8 ms
TE 1	25.00 ms
Multi-echo spacing	41.60 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Magn. Prep. Shots	1
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	50
Reordering	Linear

Resolution - Common

FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
Base Resolution	180
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	128
Acceleration Factor 3D	4
Reference Lines 3D	24
Reordering Shift 3D	1
Phase Partial Fourier	7/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Slices per Slab	64
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	51.2 ms
Vol. TR	3276.8 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R6.8 P36.7 F45.4 mm

Geometry - AutoAlign

Orientation	C > T7.4
Phase Encoding Dir.	F >> H
AutoAlign	---
Initial Position	R6.8 P36.7 F45.4
R	6.8 mm
P	36.7 mm
F	45.4 mm
Initial Orientation	C > T
C > T	7.40
> S	0.00
Initial Rotation	90.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 P31.7 F26.1 mm
! Orientation	C > T7.0
! Rotation	90.00 deg
! F >> H	95 mm
! R >> L	180 mm
! A >> P	75 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
! Ref. Amplitude 1H	250.000 V

System - Tx/Rx

Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	vaso a2d6453
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1112 Hz/Px
Echo Spacing	1.02 ms
Turbo Factor	64
Segmentation	4
EPI Factor	40

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

RF duration	420 us
RF time x BW	8
PAT ref. FA	3 deg
Fat sat. FA	110 deg
T1 (Ernst FA)	1200 ms
Invert PE	Off
Min. TE w/ PF	On
Ramp Sampling	On
Trigger per shot	Off
Noise image	Off
Relax spoilers	On
Round up Vol. TR	Off
MT flip angle	500 deg
MT off-res.	2000 Hz
MT RF duration	10240 us
Custom Water Exc.	-none-
Phase Correction	per Series
Saturation RF	per Shot
EPI rise time factor	1.00
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional
Read polarity	Dual-polarity

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\rslh_ep3d_vaso_Shahin_tSNR_connected_dual_pol

TA: 3:05 min Coil Selection: Manual Voxel Size: 1.0×1.0×1.0 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Slices per Slab	64
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	51.2 ms
Vol. TR	3276.8 ms
TE 1	25.00 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	51.2 ms
Vol. TR	3276.8 ms
TE 1	25.00 ms
Multi-echo spacing	41.60 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Magn. Prep. Shots	1
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	50
Reordering	Linear

Resolution - Common

FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
Base Resolution	180
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	128
Acceleration Factor 3D	4
Reference Lines 3D	24
Reordering Shift 3D	1
Phase Partial Fourier	7/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Slices per Slab	64
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	51.2 ms
Vol. TR	3276.8 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R6.8 P36.7 F45.4 mm

Geometry - AutoAlign

Orientation	C > T7.4
Phase Encoding Dir.	F >> H
AutoAlign	---
Initial Position	R6.8 P36.7 F45.4
R	6.8 mm
P	36.7 mm
F	45.4 mm
Initial Orientation	C > T
C > T	7.40
> S	0.00
Initial Rotation	90.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 P31.7 F26.1 mm
! Orientation	C > T7.0
! Rotation	90.00 deg
! F >> H	95 mm
! R >> L	180 mm
! A >> P	75 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
! Ref. Amplitude 1H	250.000 V

System - Tx/Rx

Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	vaso a2d6453
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1112 Hz/Px
Echo Spacing	1.02 ms
Turbo Factor	64
Segmentation	4
EPI Factor	40

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

RF duration	420 us
RF time x BW	8
PAT ref. FA	3 deg
Fat sat. FA	110 deg
T1 (Ernst FA)	1200 ms
Invert PE	Off
Min. TE w/ PF	On
Ramp Sampling	On
Trigger per shot	Off
Noise image	Off
Relax spoilers	On
Round up Vol. TR	Off
MT flip angle	500 deg
MT off-res.	2000 Hz
MT RF duration	10240 us
Custom Water Exc.	-none-
Phase Correction	per Series
Saturation RF	per Shot
EPI rise time factor	1.00
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional
Read polarity	Dual-polarity

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\rslh_ep3d_vaso_Shahin_tSNR_unconnected

TA: 2:56 min Coil Selection: Manual Voxel Size: 1.0×1.0×1.0 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Slices per Slab	64
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	51.2 ms
Vol. TR	3276.8 ms
TE 1	25.00 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	51.2 ms
Vol. TR	3276.8 ms
TE 1	25.00 ms
Multi-echo spacing	41.60 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Magn. Prep. Shots	1
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	50
Reordering	Linear

Resolution - Common

FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
Base Resolution	180
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	128
Acceleration Factor 3D	4
Reference Lines 3D	24
Reordering Shift 3D	1
Phase Partial Fourier	7/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Slices per Slab	64
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	51.2 ms
Vol. TR	3276.8 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R6.8 P36.7 F45.4 mm

Geometry - AutoAlign

Orientation	C > T7.4
Phase Encoding Dir.	F >> H
AutoAlign	---
Initial Position	R6.8 P36.7 F45.4
R	6.8 mm
P	36.7 mm
F	45.4 mm
Initial Orientation	C > T
C > T	7.40
> S	0.00
Initial Rotation	90.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 P31.7 F26.1 mm
! Orientation	C > T7.0
! Rotation	90.00 deg
! F >> H	95 mm
! R >> L	180 mm
! A >> P	75 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
! Ref. Amplitude 1H	250.000 V

System - Tx/Rx

Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	vaso a2d6453
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1112 Hz/Px
Echo Spacing	1.02 ms
Turbo Factor	64
Segmentation	4
EPI Factor	40

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

RF duration	420 us
RF time x BW	8
PAT ref. FA	3 deg
Fat sat. FA	110 deg
T1 (Ernst FA)	1200 ms
Invert PE	Off
Min. TE w/ PF	On
Ramp Sampling	On
Trigger per shot	Off
Noise image	Off
Relax spoilers	On
Round up Vol. TR	Off
MT flip angle	500 deg
MT off-res.	2000 Hz
MT RF duration	10240 us
Custom Water Exc.	-none-
Phase Correction	per Series
Saturation RF	per Shot
EPI rise time factor	1.00
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional
Read polarity	Regular RO

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\DPG_Shahin

TA: 1:11 min Coil Selection: Manual Voxel Size: 1.0×1.0×1.0 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	54
Distance Factor	0 %
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Phase Oversampling	0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.0 mm
TR	3240.0 ms
TE	25.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	3240.0 ms
TE	25.00 ms
MTC	Off
Flip Angle	60 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	10
Delay in TR	0.00 ms

Resolution - Common

FOV Read	180 mm
FOV Phase	100.0 %

Resolution - Common

Slice Thickness	1.0 mm
Base Resolution	180
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	EPI/Separate
Acceleration Factor PE	4
Reference Lines PE	128
Phase Partial Fourier	7/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	54
Distance Factor	0 %
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Phase Oversampling	0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.0 mm
TR	3240.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
AutoAlign	---
Initial Position	R6.8 P36.7 F45.4
R	6.8 mm
P	36.7 mm
F	45.4 mm
Initial Orientation	C > T
C > T	7.40
> S	0.00
Initial Rotation	90.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 P31.7 F26.1 mm
! Orientation	C > T7.0
! Rotation	90.00 deg
! F >> H	95 mm
! R >> L	180 mm
! A >> P	75 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118108 MHz
! Ref. Amplitude 1H	250.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3240.0 ms
Log Signals	Off
Concatenations	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	0

BOLD

Ignore After Transition	0
Model Transition States	On
Temp. Highpass Filter	On
Threshold	4.00
Paradigm Size	20
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
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion Correction	Off
Spatial Filter	Off
Measurements	10
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Fast
Gradient Mode	Normal
Bandwidth	1158 Hz/Px
Echo Spacing	1.01 ms
Free Echo Spacing	On
EPI Factor	180

Sequence - Part 2

Introduction	Off

Sequence - Special

Imaging Dummy TRs	4
SMS ACS Dummy TRs	-1
FLEET Dummy Pulses	0
CC Mode	Direct adj coil
RF Clip	0
VERSE Factor	1.00
ACS mode	Standard
Kernel Size	5x5
Run Siemens DPG.	On
Wait for TCP/IP Trigger	Off

Sequence - Special

Reverse Phase Encoding	Off

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\noDPG_Shahin

TA: 58 sec Coil Selection: Manual Voxel Size: 1.0×1.0×1.0 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	54
Distance Factor	0 %
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Phase Oversampling	0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.0 mm
TR	3240.0 ms
TE	25.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	3240.0 ms
TE	25.00 ms
MTC	Off
Flip Angle	60 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	10
Delay in TR	0.00 ms

Resolution - Common

FOV Read	180 mm
FOV Phase	100.0 %

Resolution - Common

Slice Thickness	1.0 mm
Base Resolution	180
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	EPI/Separate
Acceleration Factor PE	4
Reference Lines PE	128
Phase Partial Fourier	7/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	54
Distance Factor	0 %
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
Phase Oversampling	0 %
FOV Read	180 mm
FOV Phase	100.0 %
Slice Thickness	1.0 mm
TR	3240.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	R6.8 P36.7 F45.4 mm
Orientation	C > T7.4
Phase Encoding Dir.	F >> H
AutoAlign	---
Initial Position	R6.8 P36.7 F45.4
R	6.8 mm
P	36.7 mm
F	45.4 mm
Initial Orientation	C > T
C > T	7.40
> S	0.00
Initial Rotation	90.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 P31.7 F26.1 mm
! Orientation	C > T7.0
! Rotation	90.00 deg
! F >> H	95 mm
! R >> L	180 mm
! A >> P	75 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118108 MHz
! Ref. Amplitude 1H	250.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3240.0 ms
Log Signals	Off
Concatenations	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	0

BOLD

Ignore After Transition	0
Model Transition States	On
Temp. Highpass Filter	On
Threshold	4.00
Paradigm Size	20
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
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion Correction	Off
Spatial Filter	Off
Measurements	10
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Fast
Gradient Mode	Normal
Bandwidth	1158 Hz/Px
Echo Spacing	1.01 ms
Free Echo Spacing	On
EPI Factor	180

Sequence - Part 2

Introduction	Off

Sequence - Special

Imaging Dummy TRs	4
SMS ACS Dummy TRs	-1
FLEET Dummy Pulses	0
CC Mode	Direct adj coil
RF Clip	0
VERSE Factor	1.00
ACS mode	Standard
Kernel Size	5x5
Run Siemens DPG.	Off
Wait for TCP/IP Trigger	Off

Sequence - Special

Reverse Phase Encoding	Off

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\rslh_ep3d_0.39_FRISGO

TA: 1:20 min Coil Selection: Manual Voxel Size: 0.4×0.4×0.4 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R6.8 P51.0 F31.1 mm
Orientation	C > T7.4
Phase Encoding Dir.	H >> F
Slices per Slab	18
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
TR	49.5 ms
Vol. TR	7128 ms
TE 1	17.60 ms
Averages	2
Multi-echo Shots	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	49.5 ms
Vol. TR	7128 ms
TE 1	17.60 ms
Multi-echo spacing	41.40 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Magn. Prep. Shots	1
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	8
Reordering	Linear

Resolution - Common

FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
Base Resolution	356
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	75
Acceleration Factor 3D	3
Reference Lines 3D	18
Reordering Shift 3D	2
Phase Partial Fourier	6/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R6.8 P51.0 F31.1 mm
Orientation	C > T7.4
Phase Encoding Dir.	H >> F
Slices per Slab	18
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
TR	49.5 ms
Vol. TR	7128 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R6.8 P51.0 F31.1 mm

Geometry - AutoAlign

Orientation	C > T7.4
Phase Encoding Dir.	H >> F
AutoAlign	---
Initial Position	R6.8 P51.0 F31.1
R	6.8 mm
P	51.0 mm
F	31.1 mm
Initial Orientation	C > T
C > T	7.40
> S	0.00
Initial Rotation	-90.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 P31.7 F26.1 mm
! Orientation	C > T7.0
! Rotation	90.00 deg
! F >> H	95 mm
! R >> L	180 mm
! A >> P	75 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V

System - Tx/Rx

Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	vaso a2d6453
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	668 Hz/Px
Echo Spacing	1.72 ms
Turbo Factor	72
Segmentation	12
EPI Factor	23

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

RF duration	1500 us
RF time x BW	8
PAT ref. FA	3 deg
Fat sat. FA	110 deg
T1 (Ernst FA)	1200 ms
Invert PE	Off
Min. TE w/ PF	On
Ramp Sampling	On
Trigger per shot	Off
Noise image	Off
Relax spoilers	Off
Round up Vol. TR	Off
MT flip angle	500 deg
MT off-res.	2000 Hz
MT RF duration	10240 us
Custom Water Exc.	-none-
Phase Correction	per Series
Saturation RF	per Shot
EPI rise time factor	1.43
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional
Read polarity	Dual-polarity

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\scout_axial

TA: 36 sec Coil Selection: Manual Voxel Size: 1.6×1.6×1.6 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	On
Graphic segment	3rd Segment
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	160
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.600 mm
TR	3.6 ms
TE	1.56 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	3.6 ms
TE	1.56 ms
MTC	Off
Magn. Preparation	None
Flip Angle	15 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
SWI	Off
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.600 mm
Base Resolution	160
Phase Resolution	100 %
Slice Resolution	69 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	None
Phase Partial Fourier	6/8
Slice Partial Fourier	6/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	3D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	160
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.600 mm
TR	3.6 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	L0.0 A16.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P

Geometry - AutoAlign

AutoAlign	---
Initial Position	L0.0 A16.0 H0.0
L	0.0 mm
A	16.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard
Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	L0.0 A36.7 F31.6 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	263 mm
! R >> L	350 mm
! F >> H	350 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Non-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
! Ref. Amplitude 1H	250.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3.6 ms
Segments	1
Concatenations	1

Physio - Cardiac

Tagging	None
Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FOV Read	260 mm
FOV Phase	100.0 %
Phase Resolution	100 %

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Soft Tissue

Wash-in	Off
Wash-out	Off
TTP	Off
PEI	Off
MIP Time	Off
Measurements	1

Inline - Composing

Inline - MapIt

MapIt	None
Flip Angle	15 deg
Measurements	1
Contrasts	1

Inline - MapIt

TE	1.56 ms
TR	3.6 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Non-sel.
RF Pulse Type	Fast
Gradient Mode	Normal
Flow Compensation	None
Bandwidth	540 Hz/Px
Asymmetric Echo	Off
Segments	1

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Acoustic noise reduction	Off

Sequence - Nuclei

TX/RX Nucleus	1H
TX/RX Delta Frequency	0 Hz
TX Nucleus	None
TX Delta Frequency	0 Hz
Coil Elements	AC

Sequence - Special

Readout polarity	Positive
Image processing	Standard
Apply echo spacing	Off
Echo spacing	0 us
Delta echo spacing	0 us
Dummy scans	0 ms
RF pulse duration	100 us
Gradient spoiling	Siemens
Gradient moment factor	1.00
Receiver gain mode	Siemens
Number of segments	1
Current segment	0
Lines before/after seg	0

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\scout_sag

TA: 29 sec Coil Selection: Auto Voxel Size: 1.6×1.6×1.6 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	On
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	On
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Slices per Slab	128
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.6 mm
TR	3.25 ms
TE	1.53 ms
Averages	1
Concatenations	1
AutoAlign	Head

Contrast - Common

TR	3.25 ms
TE	1.53 ms
Flip Angle	16 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Time to Center	11.8 s

Resolution - Common

FOV Read	260 mm

Resolution - Common

FOV Phase	100.0 %
Slice Thickness	1.6 mm
Base Resolution	160
Phase Resolution	100 %
Slice Resolution	69 %
Trajectory	Cartesian

Resolution - Acceleration

Acceleration Mode	None
Phase Partial Fourier	6/8
Slice Partial Fourier	6/8
Asymmetric Echo	Weak

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	3D
Normalize	B1 Filter
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Slices per Slab	128
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.6 mm
TR	3.25 ms
Multi-Slice Mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	L0.0 A16.0 H0.0 mm
Orientation	Sagittal
Phase Encoding Dir.	A >> P
AutoAlign	Head
Initial Position	L0.0 A16.0 H0.0
L	0.0 mm
A	16.0 mm
H	0.0 mm
Initial Orientation	Sagittal

Geometry - AutoAlign

Initial Rotation	0.00 deg

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	L0.0 A36.7 F31.6 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	263 mm
! R >> L	350 mm
! F >> H	350 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Non-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off

Inline - Subtraction

Save Original Images	On

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline - MapIt

MapIt	None
Flip Angle	16 deg
Measurements	1
Contrasts	1
TE	1.53 ms
TR	3.25 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Non-sel.
RF Pulse Type	Fast
Gradient Mode	Normal
Bandwidth	540 Hz/Px
Asymmetric Echo	Weak

Sequence - Part 2

Introduction	On
RF Spoiling	On
Breast Application	Off
Phase Enc. Order	Automatic

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\rslh_ep3d_0.39_FRISGO

TA: 1:20 min Coil Selection: Manual Voxel Size: 0.4×0.4×0.4 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R6.8 P71.5 F19.3 mm
Orientation	C > T7.4
Phase Encoding Dir.	H >> F
Slices per Slab	18
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
TR	49.5 ms
Vol. TR	7128 ms
TE 1	17.60 ms
Averages	2
Multi-echo Shots	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	49.5 ms
Vol. TR	7128 ms
TE 1	17.60 ms
Multi-echo spacing	41.40 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Magn. Prep. Shots	1
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	8
Reordering	Linear

Resolution - Common

FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
Base Resolution	356
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	75
Acceleration Factor 3D	3
Reference Lines 3D	18
Reordering Shift 3D	2
Phase Partial Fourier	6/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R6.8 P71.5 F19.3 mm
Orientation	C > T7.4
Phase Encoding Dir.	H >> F
Slices per Slab	18
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
TR	49.5 ms
Vol. TR	7128 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R6.8 P71.5 F19.3 mm

Geometry - AutoAlign

Orientation	C > T7.4
Phase Encoding Dir.	H >> F
AutoAlign	---
Initial Position	R6.8 P71.5 F19.3
R	6.8 mm
P	71.5 mm
F	19.3 mm
Initial Orientation	C > T
C > T	7.40
> S	0.00
Initial Rotation	-90.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 P70.9 F12.4 mm
! Orientation	C > T7.0
! Rotation	90.00 deg
! F >> H	81 mm
! R >> L	105 mm
! A >> P	36 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V

System - Tx/Rx

Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	vaso a2d6453
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	668 Hz/Px
Echo Spacing	1.72 ms
Turbo Factor	72
Segmentation	12
EPI Factor	23

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

RF duration	1500 us
RF time x BW	8
PAT ref. FA	3 deg
Fat sat. FA	110 deg
T1 (Ernst FA)	1200 ms
Invert PE	Off
Min. TE w/ PF	On
Ramp Sampling	On
Trigger per shot	Off
Noise image	Off
Relax spoilers	Off
Round up Vol. TR	Off
MT flip angle	500 deg
MT off-res.	2000 Hz
MT RF duration	10240 us
Custom Water Exc.	-none-
Phase Correction	per Series
Saturation RF	per Shot
EPI rise time factor	1.43
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional
Read polarity	Dual-polarity

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\rslh_ep3d_0.39_FRISGO

TA: 2:45 min Coil Selection: Manual Voxel Size: 0.4×0.4×0.4 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R6.8 P71.5 F19.3 mm
Orientation	C > T7.4
Phase Encoding Dir.	H >> F
Slices per Slab	18
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
TR	49.5 ms
Vol. TR	7128 ms
TE 1	17.60 ms
Averages	2
Multi-echo Shots	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	49.5 ms
Vol. TR	7128 ms
TE 1	17.60 ms
Multi-echo spacing	41.40 ms
MTC	Off
Flip Angle	20 deg
Fat-Water Contrast	Standard
Magn. Prep. Shots	1
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard

Contrast - Dynamic

Measurements	20
Reordering	Linear

Resolution - Common

FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
Base Resolution	356
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	75
Acceleration Factor 3D	3
Reference Lines 3D	18
Reordering Shift 3D	2
Phase Partial Fourier	6/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R6.8 P71.5 F19.3 mm
Orientation	C > T7.4
Phase Encoding Dir.	H >> F
Slices per Slab	18
Phase Oversampling	0.0 %
Slice Oversampling	0.0 %
FOV Read	140 mm
FOV Phase	100.0 %
Slice Thickness	0.39 mm
TR	49.5 ms
Vol. TR	7128 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R6.8 P71.5 F19.3 mm

Geometry - AutoAlign

Orientation	C > T7.4
Phase Encoding Dir.	H >> F
AutoAlign	---
Initial Position	R6.8 P71.5 F19.3
R	6.8 mm
P	71.5 mm
F	19.3 mm
Initial Orientation	C > T
C > T	7.40
> S	0.00
Initial Rotation	-90.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	Volume-selective
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 P70.9 F12.4 mm
! Orientation	C > T7.0
! Rotation	90.00 deg
! F >> H	78 mm
! R >> L	105 mm
! A >> P	36 mm
Reset	Off

System - pTx

B1 Shim	Volume-selective
Excitation	Slab-sel.
pTx Volume	1
Vol. Property	B1 Shim Vol.
Position	R6.8 P69.7 F13.1 mm
Orientation	C > T7.0

System - pTx

Rotation	90.00 deg
F >> H	78 mm
R >> L	105 mm
A >> P	36 mm
Vol. Visibility	On

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	vaso a2d6453
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	668 Hz/Px
Echo Spacing	1.72 ms
Turbo Factor	72
Segmentation	12
EPI Factor	23

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

RF duration	1500 us
RF time x BW	8
PAT ref. FA	3 deg
Fat sat. FA	110 deg
T1 (Ernst FA)	1200 ms
Invert PE	Off
Min. TE w/ PF	On
Ramp Sampling	On
Trigger per shot	Off
Noise image	Off
Relax spoilers	Off
Round up Vol. TR	Off
MT flip angle	500 deg
MT off-res.	2000 Hz
MT RF duration	10240 us
Custom Water Exc.	-none-
Phase Correction	per Series
Saturation RF	per Shot
EPI rise time factor	1.43
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On

Sequence - Special

G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional
Read polarity	Dual-polarity

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\dzne_ep3d_reference_as_inbay5_Kaisu_almost_unconnected

TA: 2:38 min Coil Selection: Auto Voxel Size: 1.0×1.0×1.0 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R1.9 P13.7 H8.1 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	44
Slice Oversampling	18.2 %
FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	57.8 ms
Vol. TR	3005.6 ms
TE 1	29.70 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---

Contrast - Common

TR	57.8 ms
Vol. TR	3005.6 ms
TE 1	29.70 ms
Multi-echo spacing	49.50 ms
MTC	Off
Flip Angle	14 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	50
Pause after Meas. 1	0.0 s
Pause after Meas. 2	0.0 s

Contrast - Dynamic

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
Pause after Meas. 32	0.0 s
Pause after Meas. 33	0.0 s
Pause after Meas. 34	0.0 s
Pause after Meas. 35	0.0 s
Pause after Meas. 36	0.0 s
Pause after Meas. 37	0.0 s
Pause after Meas. 38	0.0 s
Pause after Meas. 39	0.0 s
Pause after Meas. 40	0.0 s
Pause after Meas. 41	0.0 s
Pause after Meas. 42	0.0 s
Pause after Meas. 43	0.0 s
Pause after Meas. 44	0.0 s
Pause after Meas. 45	0.0 s
Pause after Meas. 46	0.0 s
Pause after Meas. 47	0.0 s
Pause after Meas. 48	0.0 s
Pause after Meas. 49	0.0 s
Reordering	Linear

Resolution - Common

FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
Base Resolution	192
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
CAIPIRINHA Mode	Free
Reference Scans	EPI/Separate
Acceleration Factor PE	2
Reference Lines PE	48
Acceleration Factor 3D	2
Reference Lines 3D	24
Reordering Shift 3D	1
Phase Partial Fourier	Off
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R1.9 P13.7 H8.1 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	44
Slice Oversampling	18.2 %
FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	57.8 ms
Vol. TR	3005.6 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R1.9 P13.7 H8.1 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P13.7 H8.1
R	1.9 mm
P	13.7 mm
H	8.1 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	Volume-selective
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P13.1 H6.8 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	Volume-selective
Excitation	Slab-sel.
pTx Volume	1
Vol. Property	B1 Shim Vol.
Position	R1.9 P13.1 H6.8 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	150 mm
R >> L	175 mm
F >> H	49 mm
Vol. Visibility	On

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Part 1

Sequence Name	ep 256d7d0
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1132 Hz/Px
Echo Spacing	1.01 ms
Segmentation	2
EPI Factor	48

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

PAT ref. FA	5 deg
RF duration	4000 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	100
Volume dummy shots	0
Noise dummy shots	-1
CHECK FLIP ANGLE!	On
Integrated PC	Off
Invert PE	Off
Dual-polarity	Off
Ramp Sampling	On
Ext. trigger/shot	Off
Water Exc.	-none-
Phase Correction	per Series
EPI rise time factor	1.03
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\dzne_ep3d_reference_as_inbay5_Kaisu_almost_connected

TA: 2:38 min Coil Selection: Auto Voxel Size: 1.0×1.0×1.0 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R1.9 P13.7 H8.1 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	44
Slice Oversampling	18.2 %
FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	57.8 ms
Vol. TR	3005.6 ms
TE 1	29.70 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---

Contrast - Common

TR	57.8 ms
Vol. TR	3005.6 ms
TE 1	29.70 ms
Multi-echo spacing	49.50 ms
MTC	Off
Flip Angle	14 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	50
Pause after Meas. 1	0.0 s
Pause after Meas. 2	0.0 s

Contrast - Dynamic

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
Pause after Meas. 32	0.0 s
Pause after Meas. 33	0.0 s
Pause after Meas. 34	0.0 s
Pause after Meas. 35	0.0 s
Pause after Meas. 36	0.0 s
Pause after Meas. 37	0.0 s
Pause after Meas. 38	0.0 s
Pause after Meas. 39	0.0 s
Pause after Meas. 40	0.0 s
Pause after Meas. 41	0.0 s
Pause after Meas. 42	0.0 s
Pause after Meas. 43	0.0 s
Pause after Meas. 44	0.0 s
Pause after Meas. 45	0.0 s
Pause after Meas. 46	0.0 s
Pause after Meas. 47	0.0 s
Pause after Meas. 48	0.0 s
Pause after Meas. 49	0.0 s
Reordering	Linear

Resolution - Common

FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
Base Resolution	192
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
CAIPIRINHA Mode	Free
Reference Scans	EPI/Separate
Acceleration Factor PE	2
Reference Lines PE	48
Acceleration Factor 3D	2
Reference Lines 3D	24
Reordering Shift 3D	1
Phase Partial Fourier	Off
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R1.9 P13.7 H8.1 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	44
Slice Oversampling	18.2 %
FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.00 mm
TR	57.8 ms
Vol. TR	3005.6 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R1.9 P13.7 H8.1 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P13.7 H8.1
R	1.9 mm
P	13.7 mm
H	8.1 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	Volume-selective
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P13.1 H6.8 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	Volume-selective
Excitation	Slab-sel.
pTx Volume	1
Vol. Property	B1 Shim Vol.
Position	R1.9 P13.1 H6.8 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	150 mm
R >> L	175 mm
F >> H	49 mm
Vol. Visibility	On

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Part 1

Sequence Name	ep 256d7d0
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1132 Hz/Px
Echo Spacing	1.01 ms
Segmentation	2
EPI Factor	48

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

PAT ref. FA	5 deg
RF duration	4000 us
RF BWT product	25
Ernst T1	1200 ms
PATRef prep. shots	100
Volume dummy shots	0
Noise dummy shots	-1
CHECK FLIP ANGLE!	On
Integrated PC	Off
Invert PE	Off
Dual-polarity	Off
Ramp Sampling	On
Ext. trigger/shot	Off
Water Exc.	-none-
Phase Correction	per Series
EPI rise time factor	1.03
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional

Sequence - Assistant

SAR Assistant	Off

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250805_with_Shahin\meso_veins_WIP

TA: 6:29 min Coil Selection: Auto Voxel Size: 0.4×0.4×0.4 mm³ Acc:: 6 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	L0.0 P18.0 H10.6 mm
Orientation	T > C-28.5
Phase Encoding Dir.	A >> P
Slices per Slab	352
Slice Oversampling	0.6 %
FOV Read	180 mm
FOV Phase	102.5 %
Slice Thickness	0.35 mm
TR	60.5 ms
Vol. TR	374.8 s
TE 1	11.20 ms
TE 2	28.60 ms
TE 3	46.00 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---

Contrast - Common

TR	60.5 ms
Vol. TR	374.8 s
TE 1	11.20 ms
TE 2	28.60 ms
TE 3	46.00 ms
Multi-echo spacing	17.40 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Contrasts	3
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Reordering	Linear

Resolution - Common

FOV Read	180 mm
FOV Phase	102.5 %
Slice Thickness	0.35 mm
Base Resolution	512
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
CAIPIRINHA Mode	Free
Reference Scans	GRE/Separate
Acceleration Factor PE	3
Reference Lines PE	24
Acceleration Factor 3D	2
Reference Lines 3D	36
Reordering Shift 3D	1
Phase Partial Fourier	Off
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	L0.0 P18.0 H10.6 mm
Orientation	T > C-28.5
Phase Encoding Dir.	A >> P
Slices per Slab	352
Slice Oversampling	0.6 %
FOV Read	180 mm
FOV Phase	102.5 %
Slice Thickness	0.35 mm
TR	60.5 ms
Vol. TR	374.8 s
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1

Geometry - AutoAlign

Position	L0.0 P18.0 H10.6 mm
Orientation	T > C-28.5
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	L0.0 P18.0 H10.6
L	0.0 mm
P	18.0 mm
H	10.6 mm
Initial Orientation	T > C
T > C	-28.50
> S	0.00
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	Volume-selective
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	L0.0 P26.7 H6.8 mm
! Orientation	Sagittal
! Rotation	119.16 deg
! F >> H	89 mm
! A >> P	143 mm
! R >> L	135 mm
Reset	Off

System - pTx

B1 Shim	Volume-selective
Excitation	Slab-sel.
pTx Volume	1

System - pTx

Vol. Property	B1 Shim Vol.
Position	L0.0 P19.9 H4.4 mm
Orientation	Sagittal
Rotation	119.16 deg
F >> H	89 mm
A >> P	167 mm
R >> L	135 mm
Vol. Visibility	On

System - Tx/Rx

Frequency 1H	297.118108 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Part 1

Sequence Name	ep 256d7d0
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	444 Hz/Px
Echo Spacing	2.90 ms
Segmentation	35
EPI Factor	5

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

PAT ref. FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Noise dummy shots	-1
CHECK FLIP ANGLE!	On
Integrated PC	Off
Invert PE	Off
Dual-polarity	On
Ramp Sampling	On
Ext. trigger/shot	Off
Water Exc.	-none-
Phase Correction	per Series
EPI rise time factor	1.10
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6

Sequence - Special

Slab Scale	-10 %
RF spoil scheme	Conventional

Sequence - Assistant

SAR Assistant	Off