

\\USER\NIMH\MARRETT\190908_HILUNA\renzo_IR_localizer

TA: 1:05 PM: REF Voxel size: 1.0×1.0×5.0 mmPAT: Off Rel. SNR: 1.00 : tfl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	9
Dist. factor	80 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	80 %
Position	L0.0 A9.7 H24.8 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	7
Dist. factor	200 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	3000.0 ms
TE	2.24 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3000.0 ms
TE	2.24 ms
Magn. preparation	Slice-sel. IR
TI	1100 ms
Flip angle	6.0 deg
Fat suppr.	None
Water suppr.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None
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Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	9
Dist. factor	80 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	80 %
Position	L0.0 A9.7 H24.8 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	7
Dist. factor	200 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	3000.0 ms
Multi-slice mode	Single shot
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	L0.0 A9.7 H24.8 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Position	Isocenter

Geometry - AutoAlign

Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Navigator**System - Miscellaneous**

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201506 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	1100 ms
Fat suppr.	None
Dark blood	Off
FoV read	200 mm
FoV phase	100.0 %

Physio - Cardiac

Phase resolution	100 %
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Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Inline - Composing

Distortion Corr.	Off
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Sequence - Part 1

Introduction	On
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	5.5 ms
Bandwidth	240 Hz/Px

Sequence - Part 2

RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	192

Sequence - Nuclei

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A32

Sequence - Assistant

Mode	Off
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\\USER\\NIMH\\MARRETT\\190908_HILUNA\\b1map_tra_p2

TA: 9.2 s PM: REF Voxel size: 4.0×4.0×4.0 mmPAT: 2 Rel. SNR: 1.00 : tfl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	25
Dist. factor	100 %
Position	R1.2 A14.5 F6.7 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	4000.0 ms
TE	1.72 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	4000.0 ms
TE	1.72 ms
Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Water suppr.	None

Contrast - Dynamic

Averages	1
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
Base resolution	64
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	16
Reference scan mode	Integrated

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	25
Dist. factor	100 %
Position	R1.2 A14.5 F6.7 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	4000.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	R1.2 A14.5 F6.7 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R1.2 A14.5 F6.7
R	1.2 mm
A	14.5 mm
F	6.7 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201506 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Inline - Composing

Distortion Corr.	Off
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Sequence - Part 1

Introduction	Off
Dimension	2D
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Interleaved
Echo spacing	3.9 ms
Bandwidth	490 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On
Turbo factor	64

Sequence - Assistant

Mode	Off
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\\USER\NIMH\MARRETT\190908_HILUNA\RENZLAY4_130slices_anat PCperseries

TA: 9:28 PM: REF Voxel size: 0.6×0.6×0.7 mmPAT: 3 Rel. SNR: 1.00 : RenzLa4

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.0 A7.2 H26.5 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	128
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.73 mm
TR 1	36.02 ms
TR 2	50867.6 ms
TE 1	13.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

Contrast - Common

TR 1	36.02 ms
TR 2	50867.6 ms
TE 1	13.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR T1map
Flip angle	33 deg
Fat suppr.	None
Number of TIs	2

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	11
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

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.73 mm
Base resolution	318
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	44
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.0 A7.2 H26.5 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	128
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.73 mm
TR 1	36.02 ms
TR 2	50867.6 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A7.2 H26.5 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A7.2 H26.5
L	0.0 mm
A	7.2 mm
H	26.5 mm

Geometry - AutoAlign

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-11.4
> S	0.0

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.0 A8.9 H27.3 mm
! Orientation	T > C-11.6
! Rotation	0.00 deg
! A >> P	179 mm
! R >> L	184 mm
! F >> H	95 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201506 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

BOLD

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
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

BOLD

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	11

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.33 ms
Bandwidth	874 Hz/Px

Sequence - Part 2

EPI factor	20
Segmentation	4
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	12 deg
RF duration	2500 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
CHECK FLIP ANGLE!	On
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	Off
Echo Time Shift	On
Water Exc.	-none-
External PC	per Series
HSN RF power scale	2.50
Inversion Delay	650000 us
Relaxation Delay	0 us

Sequence - Assistant

Mode	Off
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\\USER\NIMH\MARRETT\190908_HILUNA\t1_mp2rage_sag_p3_0.7mm

TA: 11:02 PM: FIX Voxel size: 0.7×0.7×0.7 mmPAT: 3 Rel. SNR: 1.00 : tfl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Dist. factor	50 %
Position	R0.6 A14.2 F7.9 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	7.1 %
Slices per slab	224
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
TR	6000.0 ms
TE	1.99 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	6000.0 ms
TE	1.99 ms
Magn. preparation	Non-sel. IR
TI 1	943 ms
TI 2	2820 ms
Flip angle 1	5.0 deg
Flip angle 2	6.0 deg
Fat suppr.	Water excit. fast
Water suppr.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
Base resolution	320
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	45
Accel. factor 3D	1
Reference scan mode	Integrated

Resolution - Filter Image

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

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	50 %
Position	R0.6 A14.2 F7.9 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	7.1 %
Slices per slab	224
FoV read	224 mm
FoV phase	100.0 %
Slice thickness	0.70 mm
TR	6000.0 ms
Multi-slice mode	Single shot
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	R0.6 A14.2 F7.9 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R0.6 A14.2 F7.9
R	0.6 mm
A	14.2 mm
F	7.9 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Navigator**System - Miscellaneous**

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A

System - Miscellaneous

Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.0 A8.9 H27.3 mm
! Orientation	T > C-11.6
! Rotation	0.00 deg
! A >> P	179 mm
! R >> L	184 mm
! F >> H	95 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201506 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

Physio - Signal1

1st Signal/Mode	None
TR	6000.0 ms
Concatenations	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI 1	943 ms
TI 2	2820 ms
Fat suppr.	Water excit. fast
Dark blood	Off
FoV read	224 mm
FoV phase	100.0 %
Phase resolution	100 %

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Inline - Composing

Distortion Corr.	Off
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Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	7.3 ms
Bandwidth	250 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Fast*
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	On
Turbo factor	240

Sequence - Nuclei

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A32

Sequence - Assistant

Mode	Off
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\\USER\NIMH\MARRETT\190908_HILUNA\RENZLAY4_26slices_0.5_SAMOWU

TA: 9:18 PM: FIX Voxel size: 0.6×0.6×0.6 mmPAT: 3 Rel. SNR: 1.00 : RenzLa4

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	144
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
TR 1	60.55 ms
TR 2	45827.28 ms
TE 1	21.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

Contrast - Common

TR 1	60.55 ms
TR 2	45827.28 ms
TE 1	21.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR T1map
Flip angle	33 deg
Fat suppr.	None
Number of TIs	2

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	12
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

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
Base resolution	318
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	44
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	144
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
TR 1	60.55 ms
TR 2	45827.28 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A5.3 H27.1
L	0.0 mm
A	5.3 mm
H	27.1 mm

Geometry - AutoAlign

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-11.4
> S	0.0

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.0 A8.9 H27.3 mm
! Orientation	T > C-11.6
! Rotation	0.00 deg
! A >> P	179 mm
! R >> L	184 mm
! F >> H	95 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201506 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

BOLD

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
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

BOLD

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	12

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.29 ms
Bandwidth	874 Hz/Px

Sequence - Part 2

EPI factor	40
Segmentation	2
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	12 deg
RF duration	2500 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
CHECK FLIP ANGLE!	On
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	Off
Echo Time Shift	On
Water Exc.	-none-
External PC	per Series
HSN RF power scale	3.00
Inversion Delay	650000 us
Relaxation Delay	0 us

Sequence - Assistant

Mode	Off
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\\USER\NIMH\MARRETT\190908_HILUNA\RE NZLAY4_26slices_0.5_SAMOWU_noPC

TA: 9:48 PM: FIX Voxel size: 0.6×0.6×0.6 mmPAT: 3 Rel. SNR: 1.00 : RenzLa4

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	144
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
TR 1	64.55 ms
TR 2	48323.28 ms
TE 1	25.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

Contrast - Common

TR 1	64.55 ms
TR 2	48323.28 ms
TE 1	25.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR T1map
Flip angle	33 deg
Fat suppr.	None
Number of TIs	2

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	12
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

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
Base resolution	318
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	44
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	144
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
TR 1	64.55 ms
TR 2	48323.28 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A5.3 H27.1
L	0.0 mm
A	5.3 mm
H	27.1 mm

Geometry - AutoAlign

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-11.4
> S	0.0

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.0 A8.9 H27.3 mm
! Orientation	T > C-11.6
! Rotation	0.00 deg
! A >> P	179 mm
! R >> L	184 mm
! F >> H	95 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201506 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

BOLD

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
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

BOLD

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	12

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.29 ms
Bandwidth	874 Hz/Px

Sequence - Part 2

EPI factor	40
Segmentation	2
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	12 deg
RF duration	2500 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
CHECK FLIP ANGLE!	On
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	Off
Echo Time Shift	On
Water Exc.	-none-
External PC	-none-
HSN RF power scale	3.00
Inversion Delay	650000 us
Relaxation Delay	0 us

Sequence - Assistant

Mode	Off
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\\USER\NIMH\MARRETT\190908_HILUNA\RENZLAY4_26slices_0.5_SAMOWU

TA: 9:18 PM: FIX Voxel size: 0.6×0.6×0.6 mmPAT: 3 Rel. SNR: 1.00 : RenzLa4

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	144
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
TR 1	60.55 ms
TR 2	45827.28 ms
TE 1	21.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

Contrast - Common

TR 1	60.55 ms
TR 2	45827.28 ms
TE 1	21.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR T1map
Flip angle	33 deg
Fat suppr.	None
Number of TIs	2

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	12
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

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
Base resolution	318
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	44
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	144
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
TR 1	60.55 ms
TR 2	45827.28 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A5.3 H27.1
L	0.0 mm
A	5.3 mm
H	27.1 mm

Geometry - AutoAlign

Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-11.4
> S	0.0

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.0 A8.9 H27.3 mm
! Orientation	T > C-11.6
! Rotation	0.00 deg
! A >> P	179 mm
! R >> L	184 mm
! F >> H	95 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201506 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

BOLD

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
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

BOLD

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	12

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.29 ms
Bandwidth	874 Hz/Px

Sequence - Part 2

EPI factor	40
Segmentation	2
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	26

Sequence - Special

PATRef FA	12 deg
RF duration	2500 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
CHECK FLIP ANGLE!	On
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	Off
Echo Time Shift	On
Water Exc.	-none-
External PC	per Series
HSN RF power scale	3.00
Inversion Delay	650000 us
Relaxation Delay	0 us

Sequence - Assistant

Mode	Off
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\\USER\NIMH\MARRETT\190908_HILUNAIRENZLAY4_96 slices_MAGEC_compation

TA: 1:02 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : RenzLa4

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	96
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.85 mm
TR 1	61.56 ms
TR 2	13830.54 ms
TE 1	22.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

Contrast - Common

TR 1	61.56 ms
TR 2	13830.54 ms
TE 1	22.0 ms
Multi-echo dTE	60.0 ms
MTC	Off
Magn. preparation	Non-sel. IR T1map
Flip angle	33 deg
Fat suppr.	None
Number of TIs	2

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.85 mm
Base resolution	216
Phase resolution	100 %
Slice resolution	100 %

Resolution - Common

Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	3
Ref. lines PE	44
Acc. factor 3D	1
Ref. lines 3D	24
CAIPI 3D Shift	0
Reference scan mode	GRE/separate
CAIPIRINHA mode	Free

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	96
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.85 mm
TR 1	61.56 ms
TR 2	13830.54 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A5.3 H27.1 mm
Orientation	T > C-11.4
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A5.3 H27.1
L	0.0 mm
A	5.3 mm
H	27.1 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-11.4
> S	0.0

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.0 A8.9 H27.3 mm
! Orientation	T > C-11.6
! Rotation	0.00 deg
! A >> P	179 mm
! R >> L	184 mm
! F >> H	95 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.201506 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

BOLD

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
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

BOLD

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	4

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Asymmetric echo	Off
Contrasts	1
Multi-slice mode	Interleaved
Echo spacing	1.01 ms
Bandwidth	1102 Hz/Px

Sequence - Part 2

EPI factor	54
Segmentation	1
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	32

Sequence - Special

PATRef FA	12 deg
RF duration	2500 us
RF BWT product	25
Slab Scale	90 %
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
CHECK FLIP ANGLE!	On
Invert PE	Off
Invert 3D	Off
Min. TE if PF	On
Are you Renzo?	Off
Echo Time Shift	On
Water Exc.	-none-
External PC	per Series
HSN RF power scale	3.00
Inversion Delay	650000 us
Relaxation Delay	0 us

Sequence - Assistant

Mode	Off
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