

\\USER\NIMH\MARRETT\190907\_SAMOWU\renzo\_IR\_localizer\_vis

TA: 1:05 PM: REF Voxel size: 1.0×1.0×3.0 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	20 %
Position	L0.0 A8.7 H2.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	80 %
Position	L0.0 A10.7 F0.8 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	7
Dist. factor	80 %
Position	L0.0 P54.7 F1.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	3000.0 ms
TE	2.34 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

**Contrast - Common**

TR	3000.0 ms
TE	2.34 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	3.0 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	20 %
Position	L0.0 A8.7 H2.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	5
Dist. factor	80 %
Position	L0.0 A10.7 F0.8 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	7
Dist. factor	80 %
Position	L0.0 P54.7 F1.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	3000.0 ms
Multi-slice mode	Single shot
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A8.7 H2.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	L0.0 A10.7 F0.8 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Position	L0.0 P54.7 F1.0 mm

**Geometry - AutoAlign**

Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A8.7 H2.4
L	0.0 mm
A	8.7 mm
H	2.4 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	5.6 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\190907\_SAMOWU\RENLAY4\_26slices\_0.5\_SAMOWU

TA: 15:50 PM: REF 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	R1.9 P16.9 H23.5 mm
Orientation	T > C-37.9
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
TR 1	62.55 ms
TR 2	7845.88 ms
TE 1	23.0 ms
Averages	1
TE segmentation	1
Filter	Distortion Corr.(3D)
Coil elements	A32

**Contrast - Common**

TR 1	62.55 ms
TR 2	7845.88 ms
TE 1	23.0 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	120
Pause after meas.	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

**Resolution - Common**

Interpolation	Off
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**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	R1.9 P16.9 H23.5 mm
Orientation	T > C-37.9
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	26
FoV read	177 mm
FoV phase	100.0 %
Slice thickness	0.60 mm
TR 1	62.55 ms
TR 2	7845.88 ms
Multi-slice mode	Interleaved
Series	Ascending
TE segmentation	1

**Geometry - AutoAlign**

Slab group	1
Position	R1.9 P16.9 H23.5 mm
Orientation	T > C-37.9
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P16.9 H23.5
R	1.9 mm
P	16.9 mm
H	23.5 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-37.9
> 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 P15.2 H31.2 mm
! Orientation	T > C-37.5
! Rotation	0.00 deg
! A >> P	179 mm
! R >> L	184 mm
! F >> H	45 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
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active

**BOLD**

Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	120

**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\190907\_SAMOWU\gre\_a\_la\_Fukunaga

TA: 5:31 PM: FIX Voxel size: 0.2x0.2x0.8 mmPAT: 2 Rel. SNR: 1.00 : fl

**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	24
Dist. factor	20 %
Position	R1.9 P16.9 H23.5 mm
Orientation	T > C-37.9
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	205 mm
FoV phase	87.5 %
Slice thickness	0.8 mm
TR	700.0 ms
TE	15.00 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

**Contrast - Common**

TR	700.0 ms
TE	15.00 ms
MTC	Off
Magn. preparation	None
Flip angle	40 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Each measurement

**Resolution - Common**

FoV read	205 mm
FoV phase	87.5 %
Slice thickness	0.8 mm
Base resolution	1024
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	GRAPPA
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**Resolution - iPAT**

Accel. factor PE	2
Ref. lines PE	44
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	24
Dist. factor	20 %
Position	R1.9 P16.9 H23.5 mm
Orientation	T > C-37.9
Phase enc. dir.	R >> L
FoV read	205 mm
FoV phase	87.5 %
Slice thickness	0.8 mm
TR	700.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	R1.9 P16.9 H23.5 mm
Orientation	T > C-37.9
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	R1.9 P16.9 H23.5
R	1.9 mm
P	16.9 mm
H	23.5 mm
Initial Rotation	90.00 deg
Initial Orientation	T > C
T > C	-37.9
> S	0.0

**Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	None
Water suppr.	None
Special sat.	None

**Geometry - Tim CT**

Tim CT mode	Off
Slices	24
Slice thickness	0.8 mm
Dist. factor	20 %
FoV read	205 mm
FoV phase	87.5 %
Segments	1

**System - Miscellaneous**

Positioning mode	FIX
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
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 P15.2 H31.2 mm
! Orientation	T > C-37.5
! Rotation	0.00 deg
! A >> P	179 mm
! R >> L	184 mm
! F >> H	45 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	700.0 ms
Concatenations	1
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	205 mm
FoV phase	87.5 %
Phase resolution	100 %

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Liver registration	Off
Save original images	On

**Inline - MIP**

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

**Inline - Soft Tissue**

Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Measurements	1

**Inline - Composing**

Distortion Corr.	Off
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**Sequence - Part 1**

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Bandwidth	60 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	None
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

**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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