Table of contents

| The state of the

\\USER\FMRIF\[XT-ID:93-M-0170]|Renzo\20230327_ptx_used\localizer_irtfl_ptx

TA: 1:00 PM: REF Voxel size: 1.0×1.0×2.0 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	On
Auto close inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	Single measurement

Routine

Routine	
Slice group	1
Slices	6
Dist. factor	750 %
Position	L1.9 A5.0 F8.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	4
Dist. factor	600 %
Position	L1.5 A1.1 H6.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	4
Dist. factor	800 %
Position	L1.5 P11.1 F7.2 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	4200.0 ms
TE	3.46 ms
Averages	1
Concatenations	14
Filter	None
Coil elements	AC

Contrast - Common

TR	4200.0 ms
TE	3.46 ms
TD	0 ms
Magn. preparation	Slice-sel. IR
TI 1	840 ms
TI 2	2540 ms
Flip angle 1	5.0 deg
Flip angle 2	8.0 deg
Fat suppr.	None
Water suppr.	None

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude

Contrast - Dynamic

Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode None

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

Geometry - Common	
Slice group	1
Slices	6
Dist. factor	750 %
Position	L1.9 A5.0 F8.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	4
Dist. factor	600 %
Position	L1.5 A1.1 H6.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	4
Dist. factor	800 %
Position	L1.5 P11.1 F7.2 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	4200.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	14

Geometry - AutoAlign

Slice group	1
Position	L1.9 A5.0 F8.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	L1.5 A1.1 H6.0 mm

Geometry - AutoAlign

Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Position	L1.5 P11.1 F7.2 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	
Initial Position	L1.9 A5.0 F8.0
L	1.9 mm
Α	5.0 mm
F	8.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Navigator

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	Н
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	Н
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	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slice-sel.

System - Tx/Rx

Frequency 1H	297.145077 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off

System - Tx/Rx

? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	None
TR	4200.0 ms
Concatenations	14

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI 1	840 ms
TI 2	2540 ms
Fat suppr.	None
Dark blood	Off
FoV read	200 mm
FoV phase	100.0 %
Phase resolution	100 %

Physio - PACE

Resp. control	Off	
Concatenations	14	

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

Inline Composing	Off
Distortion Corr.	Off

Inline - MapIt

Save original images	On
MapIt	None
Flip angle 1	5.0 deg
Flip angle 2	8.0 deg
Measurements	1
TR	4200.0 ms
TE	3.46 ms

Sequence - Part 1

Introduction	On
Dimension	2D
Asymmetric echo	Off
Flow comp.	No
Multi-slice mode	Sequential
Echo spacing	6.7 ms
Bandwidth	240 Hz/Px

Sequence - Part 2

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

SIEMENS MAGNETOM Investigational_Device_7T

\\USER\FMRIF\[XT-ID:93-M-0170]|Renzo\20230327_ptx_used\rsIh_ep3d_vaso_nih5k_saggital_norma

TA: 1:12 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 5k

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	Off
preparation	
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
AutoAlign	
Slab Scale	-10 %
Slices per slab	36
FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
TR 1	68.9 ms
TR 2	6136 ms
TE 1	22.90 ms
Averages	1
Filter	None
Coil elements	AC

Contrast - Common

TR 1	68.9 ms
TR 2	6136 ms
TE 1	22.90 ms
Multi-echo spacing	61.2 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1750.2 ms
TI 2	4230.6 ms
Flip angle	57 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Sommat Bynamic	
Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	10
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s
Pause after meas. 4	0.0 s
Pause after meas. 5	0.0 s
Pause after meas. 6	0.0 s
Pause after meas. 7	0.0 s
Pause after meas. 8	0.0 s
Pause after meas. 9	0.0 s

Resolution - Common

FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
Base resolution	220
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	1
Ref. lines PE	48
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

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
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
Slab Scale	-10 %
Slices per slab	36
FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
TR 1	68.9 ms
TR 2	6136 ms

Geometry - AutoAlign

- · · · · · · · · · · · · · · · · · · ·	
Slab group	1
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
AutoAlign	
Initial Position	L26.0 A0.1 F16.4
L	26.0 mm
A	0.1 mm
F	16.4 mm
Initial Rotation	-180.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	Н
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	Н
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	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L29.1 A2.4 H7.6 mm
! Orientation	Sagittal
! Rotation	0.00 deg
! A >> P	193 mm
! F >> H	124 mm
! R >> L	45 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.145077 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

Sequence - Part 1

-	
Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.16 ms
Bandwidth	946 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3

Sequence - Part 2

RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

	3 deg
	2500 us
RF BWT product	8
=:::*: : :	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
CHECK FLIP ANGLE!	On
Invert PE	On
Min. TE if PF	On
Echo Time Shift	On
	On
NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	Off
Invert RO	On
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
1	Off
Water Exc.	-none-
•	per Series
Saturation RF	per Shot
FIDNavs -	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
- 1010101	Off
GRAPPA Regularization	10 10^-6
HSN RF power scale	2.50
Inversion Delay	500 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Mode	Off	
------	-----	--

\\USER\FMRIF\[XT-ID:93-M-0170]|Renzo\20230327_ptx_used\rsIh_ep3d_vaso_nih5k_saggital_norma I TA: 10:24 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 5k

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	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
AutoAlign	
Slab Scale	-10 %
Slices per slab	36
FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
TR 1	68.9 ms
TR 2	6136 ms
TE 1	22.90 ms
Averages	1
Filter	None
Coil elements	AC

Contrast - Common

TR 1	68.9 ms
TR 2	6136 ms
TE 1	22.90 ms
Multi-echo spacing	61.2 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1750.2 ms
TI 2	4230.6 ms
Flip angle	57 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
Base resolution	220
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	48
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

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
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
Slab Scale	-10 %
Slices per slab	36
FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
TR 1	68.9 ms
TR 2	6136 ms

Geometry - AutoAlign

Slab group	1
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
AutoAlign	
Initial Position	L26.0 A0.1 F16.4
L	26.0 mm
A	0.1 mm
F	16.4 mm
Initial Rotation	-180.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
-------------------	-----

Geometry - Tim Planning Suite

Table position	Н
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	Н
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	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L29.1 A2.4 H7.6 mm
! Orientation	Sagittal
! Rotation	0.00 deg
! A >> P	193 mm
! F >> H	124 mm
! R >> L	45 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.145077 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.16 ms
Bandwidth	946 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2500 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
CHECK FLIP ANGLE!	On
Invert PE	On
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On
NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	Off
Invert RO	On
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	10 10^-6
HSN RF power scale	2.50
Inversion Delay	500 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4

Mode	Off	
------	-----	--

\\USER\FMRIF\[XT-ID:93-M-0170]|Renzo\20230327_ptx_used\rsIh_ep3d_vaso_nih5k_saggital_norma I TA: 10:24 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 5k

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	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
AutoAlign	
Slab Scale	-10 %
Slices per slab	36
FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
TR 1	68.9 ms
TR 2	6136 ms
TE 1	22.90 ms
Averages	1
Filter	None
Coil elements	AC

Contrast - Common

TR 1	68.9 ms
TR 2	6136 ms
TE 1	22.90 ms
Multi-echo spacing	61.2 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1750.2 ms
TI 2	4230.6 ms
Flip angle	57 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	100
Pause after meas.	0.0 s

Resolution - Common

FoV read	186 mm	
FoV phase	94.5 %	
Slice thickness	0.84 mm	
Base resolution	220	
Phase resolution	100 %	
Slice resolution	100 %	
Phase partial Fourier	6/8	

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	48
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

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
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
Slab Scale	-10 %
Slices per slab	36
FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
TR 1	68.9 ms
TR 2	6136 ms

Geometry - AutoAlign

Slab group	1
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
AutoAlign	
Initial Position	L26.0 A0.1 F16.4
L	26.0 mm
A	0.1 mm
F	16.4 mm
Initial Rotation	-180.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
-------------------	-----

Geometry - Tim Planning Suite

Table position	Н
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	Н
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	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L29.1 A2.4 H7.6 mm
! Orientation	Sagittal
! Rotation	0.00 deg
! A >> P	193 mm
! F >> H	124 mm
! R >> L	45 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.145077 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.16 ms
Bandwidth	946 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA RF duration RF duration RF BWT product RF		
RF BWT product Ernst T1 PATRef prep. shots Volume dummy shots Dummy Measurements ETL per RTEB CHECK FLIP ANGLE! Invert PE On Min. TE if PF Checho Time Shift NORDIC Sym VASO Dual-pol. EPI Invert RO Disable PF reco Disable PF reco Save sampling Off Water Exc. External PC Saturation RF FIDNavs EPI rise time factor Modify Ice Config GRAPPA Regularization Invers O ID VASO Inversion Delay Save Sam Pling On Ramp Sampling On Invert RO On Invert RO On Invert RO On Off Off Off Off Off Off Of	PATRef FA	3 deg
Ernst T1 1200 ms PATRef prep. shots 10 Volume dummy shots 0 Dummy Measurements 0 ETL per RTEB 1 CHECK FLIP ANGLE! On Invert PE On Min. TE if PF On Echo Time Shift On Ramp Sampling On NORDIC Off SVDPC Off Sym VASO Off Dual-pol. EPI Off Invert RO On Invert 3D Off Disable PF reco Off Disable PF reco Off Disable PF reco Off Save sampling Off PE VComp Off Water Exc. -none- External PC per Series Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On Gractor map Off <		2500 us
PATRef prep. shots Volume dummy shots Dummy Measurements 0 ETL per RTEB 1 CHECK FLIP ANGLE! Invert PE On Min. TE if PF Cho Time Shift SVDPC Sym VASO Dual-pol. EPI Invert RO Disable PF reco Disable PF reco Save sampling Water Exc. External PC Syaturation RF FIDNavs EPI rise time factor Mosaic DICOMs Modify Ice Config GRAPPA Regularization IT INTERN IT INTERN	RF BWT product	8
Volume dummy shots Dummy Measurements 0 ETL per RTEB 1 CHECK FLIP ANGLE! Invert PE On Min. TE if PF Chon Echo Time Shift On NORDIC SVDPC Off Sym VASO Off Dual-pol. EPI Invert RO Disable PF reco Disable PF reco Save sampling Off Water Exc. External PC Saturation RF FIDNavs EPI rise time factor Mosaic DICOMs Modify Ice Config GRAPPA Regularization Inversion Delay On Inversion On Inversion On Invert RO On Invert RO On Invert RO On Off Off Off Off Off Off Off Off Off	Ernst T1	1200 ms
Dummy Measurements 0 ETL per RTEB 1 CHECK FLIP ANGLE! On Invert PE On Min. TE if PF On Echo Time Shift On Ramp Sampling On NORDIC Off SVDPC Off Sym VASO Off Dual-pol. EPI Off Invert RO On Invert 3D Off Disable PF reco Off Save sampling Off PE VComp Off Water Excnone- External PC per Series Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On GRAPPA Regularization 10 10^-6 HSN RF power scale Inversion Delay 500 ms	PATRef prep. shots	10
ETL per RTEB CHECK FLIP ANGLE! On Invert PE On Min. TE if PF Cho Time Shift On Ramp Sampling On NORDIC SVDPC Off Sym VASO Off Dual-pol. EPI Invert RO Invert 3D Off Disable PF reco Off Save sampling Off PE VComp Water Exc. External PC Saturation RF FIDNavs EPI rise time factor Modify Ice Config GRAPPA Regularization Invert SO On Invert SO On	Volume dummy shots	0
CHECK FLIP ANGLE! Invert PE On Min. TE if PF Cho Time Shift On Ramp Sampling On NORDIC SVDPC Off Sym VASO Dual-pol. EPI Invert RO Invert 3D Off Disable PF reco Off Save sampling Off Water Exc. External PC Saturation RF FIDNavs EPI rise time factor Mosaic DICOMs Modify Ice Config GRAPPA Regularization Invert SO On On On On On On On On On	Dummy Measurements	0
Invert PE Min. TE if PF Cho Time Shift On Ramp Sampling On NORDIC SVDPC SYDPC Off Sym VASO Dual-pol. EPI Invert RO Invert 3D Disable PF reco Disable PF reco Off Save sampling Off Water Exc. External PC Saturation RF FIDNavs EPI rise time factor Mosaic DICOMs Modify Ice Config GRAPPA Regularization Invert SO On On On On On On On On On	ETL per RTEB	1
Min. TE if PF Cho Time Shift Cho Time Shift Chory Ramp Sampling Chory NORDIC SVDPC SVDPC Off Sym VASO Off Dual-pol. EPI Invert RO Invert 3D Off Disable PF reco Off Save sampling Off PE VComp Off Water Exc. External PC Saturation RF FIDNavs FIDNavs FIDNavs FIDNavs FIDNavs FIDNavs Chory Ch	CHECK FLIP ANGLE!	On
Echo Time Shift On Ramp Sampling On NORDIC Off SVDPC Off Sym VASO Off Dual-pol. EPI Off Invert RO On Invert 3D Off Disable PF reco Off Save sampling Off PE VComp Off Water Excnone- External PC per Series Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale Inversion Delay 500 ms	Invert PE	On
Ramp Sampling NORDIC SVDPC SVDPC Off Sym VASO Off Dual-pol. EPI Invert RO Invert 3D Off Disable PF reco Off Disable PF reco Off Save sampling Off PE VComp Water Exc. External PC Saturation RF FIDNavs EPI rise time factor Mosaic DICOMs Modify Ice Config GRAPPA Regularization Inversion Delay Off Off Off Off Off Off Off O	Min. TE if PF	On
NORDIC SVDPC SYDPC Off Sym VASO Off Dual-pol. EPI Invert RO Invert 3D Off Disable PF reco Off Disable PF reco Off Save sampling Off PE VComp Off Water Excnone- External PC Saturation RF FIDNavs -rone- EPI rise time factor Mosaic DICOMs Modify Ice Config GRAPPA Regularization Inversion Delay Off Sym VASO Off Off Off Off Off Off Off Off Off O	Echo Time Shift	On
SVDPC Sym VASO Off Sym VASO Off Dual-pol. EPI Invert RO Invert 3D Off Disable PF reco Off Disable PF reco Off Save sampling Off PE VComp Off Water Excnone- External PC Saturation RF per Shot FIDNavs -none- EPI rise time factor Modify Ice Config GRAPPA Regularization Interest Off HSN RF power scale Inversion Delay Off On Off Off Off Off Off Off Off Off	Ramp Sampling	On
Sym VASO Off Dual-pol. EPI Off Invert RO On Invert 3D Off Disable PF reco Off Disable PF reco Off Save sampling Off PE VComp Off Water Excnone- External PC per Series Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 1.50 Inversion Delay 500 ms	NORDIC	Off
Dual-pol. EPI Invert RO Invert RO Invert 3D Off Disable PF reco Off Disable PF reco Off Save sampling Off PE VComp Off Water Excnone- External PC Saturation RF per Shot FIDNavs -none- EPI rise time factor Mosaic DICOMs Modify Ice Config GRAPPA Regularization Interest Confice Inversion Delay Off Off Off On On Off Off Off Off Off O	SVDPC	Off
Invert RO On Invert 3D Off Disable PF reco Off Disable PF reco Off Save sampling Off PE VComp Off Water Excnone- External PC per Series Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	Sym VASO	Off
Invert 3D Off Disable PF reco Off Disable PF reco Off Save sampling Off PE VComp Off Water Excnone- External PC per Series Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	Dual-pol. EPI	Off
Disable PF reco Disable PF reco Off Disable PF reco Off Save sampling Off PE VComp Off Water Excnone- External PC Saturation RF per Shot FIDNavs -none- EPI rise time factor Mosaic DICOMs Modify Ice Config G-factor map GRAPPA Regularization HSN RF power scale Inversion Delay Off Off Dff Dff Dff Dff Dff Dff Dff Dff	Invert RO	On
Disable PF reco Save sampling Off PE VComp Off Water Excnone- External PC Saturation RF per Shot FIDNavs -none- EPI rise time factor Modify Ice Config G-factor map GRAPPA Regularization HSN RF power scale Inversion Delay Off Save sampling Off Off Off Off Off Off On Off Off Off	Invert 3D	Off
Save sampling Off PE VComp Off Water Excnone- External PC per Series Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	Disable PF reco	Off
PE VComp Water Excnone- External PC Saturation RF FIDNavs -none- EPI rise time factor Mosaic DICOMs Modify Ice Config GRAPPA Regularization HSN RF power scale Inversion Delay Off Off Off Off Off Off Off O	Disable PF reco	Off
Water Excnone- External PC per Series Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	Save sampling	Off
External PC per Series Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	PE VComp	Off
Saturation RF per Shot FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	Water Exc.	-none-
FIDNavs -none- EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	External PC	per Series
EPI rise time factor 1.10 Mosaic DICOMs On Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	Saturation RF	per Shot
Mosaic DICOMs On Modify Ice Config G-factor map Off GRAPPA Regularization HSN RF power scale Inversion Delay On On Off On Off Off CSAPPA Off DSN Off Off Off Off Off Off Off Off Off Of	FIDNavs	-none-
Modify Ice Config On G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	EPI rise time factor	1.10
G-factor map Off GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	Mosaic DICOMs	On
GRAPPA Regularization 10 10^-6 HSN RF power scale 2.50 Inversion Delay 500 ms	Modify Ice Config	On
HSN RF power scale 2.50 Inversion Delay 500 ms	G-factor map	Off
Inversion Delay 500 ms	GRAPPA Regularization	10 10^-6
	HSN RF power scale	2.50
	Inversion Delay	500 ms
Relaxation Delay 0 ms	Relaxation Delay	0 ms
Var. FA /MAGEC 4	Var. FA /MAGEC	4

Mode	Off	
------	-----	--

\\USER\FMRIF\[XT-ID:93-M-0170]|Renzo\20230327_ptx_used\rsIh_ep3d_vaso_nih5k_saggital_norma l_gfactor

TA: 0:16 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : 5k

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	Off
preparation	
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
AutoAlign	
Slab Scale	-10 %
Slices per slab	36
FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
TR 1	68.9 ms
TR 2	6136 ms
TE 1	22.90 ms
Averages	1
Filter	None
Coil elements	AC

Contrast - Common

TR 1	68.9 ms
TR 2	6136 ms
TE 1	22.90 ms
Multi-echo spacing	61.2 ms
Magn. preparation	Non-sel. HSN IR
TI 1	1750.2 ms
TI 2	4230.6 ms
Flip angle	57 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
Base resolution	220
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off	
interpolation	Oil	

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	48
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

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
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
Slab Scale	-10 %
Slices per slab	36
FoV read	186 mm
FoV phase	94.5 %
Slice thickness	0.84 mm
TR 1	68.9 ms
TR 2	6136 ms

Geometry - AutoAlign

occinion, matering.	
Slab group	1
Position	L26.0 A0.1 F16.4 mm
Orientation	Sagittal
Phase enc. dir.	P >> A
AutoAlign	
Initial Position	L26.0 A0.1 F16.4
L	26.0 mm
A	0.1 mm
F	16.4 mm
Initial Rotation	-180.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	Н

Geometry - Tim Planning Suite

Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
Table position	Н
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	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L29.1 A2.4 H7.6 mm
! Orientation	Sagittal
! Rotation	0.00 deg
! A >> P	193 mm
! F >> H	124 mm
! R >> L	45 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.145077 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	220.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.16 ms
Bandwidth	946 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2500 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
CHECK FLIP ANGLE!	On
Invert PE	On
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On
NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	Off
Invert RO	On
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	On
GRAPPA Regularization	10 10^-6
HSN RF power scale	2.50
Inversion Delay	500 ms
Relaxation Delay	0 ms
Var. FA /MAGEC	4
	•

$\verb|\USER\FMRIF|[XT-ID:93-M-0170]| Renzo | 20230327_ptx_used | cstfl_wip925b_protocol from Tobiol from Tobiol | cstfl_wip925b_protocol from Tobiol f$

TA: 5:58 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 1.0 Rel. SNR: 1.00 : WIP_cmp

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	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further	Off
preparation	
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Dist. factor	50 %
Position	L0.0 A11.3 F27.2 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	224
FoV read	230 mm
FoV phase	94.4 %
Slice thickness	0.80 mm
TR	6000.0 ms
TE	1.97 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(3D)
Coil elements	AC

Contrast - Common

TR	6000.0 ms
TE	1.97 ms
Magn. preparation	Non-sel. IR
TI 1	800 ms
TI 2	2700 ms
Flip angle 1	4 deg
Flip angle 2	5 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	230 mm
FoV phase	94.4 %
Slice thickness	0.80 mm
Base resolution	288
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off

Resolution - Common

Slice partial Fourier	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

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
Dist. factor	50 %
Position	L0.0 A11.3 F27.2 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	224
FoV read	230 mm
FoV phase	94.4 %
Slice thickness	0.80 mm
TR	6000.0 ms
Multi-slice mode	Single shot
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A11.3 F27.2 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A11.3 F27.2
L	0.0 mm
A	11.3 mm
F	27.2 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Navigator

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table position	Н
Table position	0 mm
Inline Composing	Off

System - Miscellaneous

Positioning mode	REF
------------------	-----

System - Miscellaneous

Table position	Н
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	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L29.1 A2.4 H7.6 mm
! Orientation	Sagittal
! Rotation	0.00 deg
! A >> P	193 mm
! F >> H	124 mm
! R >> L	45 mm
Reset	Off

System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Non-sel.

System - Tx/Rx

Frequency 1H	297.145077 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	None
TR	6000.0 ms
Concatenations	1

Physio - Cardiac

Magn. preparation	Non-sel. IR	
TI 1	800 ms	
TI 2	2700 ms	
Fat suppr.	None	
Dark blood	Off	
FoV read	230 mm	
FoV phase	94.4 %	
Phase resolution	100 %	

Physio - PACE

Resp. control	Off	
Concatenations	1	

Inline - Common

Subtract	Off
Measurements	1

Inline - Common

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

Inline Composing	Off	
Distortion Corr.	On	
Mode	3D	
Unfiltered images	Off	

Inline - MapIt

Save original images	On
MapIt	None
Flip angle 1	4 deg
Flip angle 2	5 deg
Measurements	1
Contrasts	1
TR	6000.0 ms
TE	1.97 ms

Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	5.8 ms
Bandwidth	240 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Fast
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	224

Sequence - pTX Pulses

Sequence - Special

Sparse Sampling	On
US	4.0 x
Samples/TR	200
Density	0.50
Jitter Radius	1.2
Reference Scan	External
No. Ref-Lines	32
Centric	Off
Virtual Coils	Off
Shift Inv Pulse	0 Hz
No. Iterations	15
CSM RO Resolution	0
Regularisation INV1	0.00100
Regularisation INV2	0.00100

SIEMENS MAGNETOM Investigational_Device_7T

Sequence - Special

Uniform	On
Denoised UNI	On
FLAWS	Off
FLAWS-hc	Off
FLAWS-hc inv.	Off
Division image	Off
T1 Map	On
Synthetic TI 0	0 ms
Synthetic TI 1	0 ms
Denoise Lambda	1
Scaling	0 10^
Echo Averaging	Off
FID Monitoring	Off

Mode	Off	