#### **Table of contents**

#### \\USER

#### BNU P2018 64CH

#### Liu.Jia

### qu.yukun\_20190320\_T1

localizer\_fl2d\_short\_64ch localizer\_fl2d\_sag\_for\_ACPC\_64ch t1\_mprage\_sag\_1x1x1\_p2\_64ch field\_mapping\_2x2x2 bold\_100x100\_s3\_2x2x2\_tr2000 bold\_100x100\_s3\_2x2x2\_tr2000 bold\_100x100\_s3\_2x2x2\_tr2000 bold\_100x100\_s3\_2x2x2\_tr2000 bold\_100x100\_s3\_2x2x2\_tr2000 DTI\_BP\_64\_2x2x2\_s2\_p2\_6-8

# qu.yukun\_20190320\_T2

localizer\_fl2d\_short\_64ch localizer\_fl2d\_sag\_for\_ACPC\_64ch t2\_space\_sag\_1x1x1\_p2\_64ch field\_mapping\_2x2x2 bold\_100x100\_s3\_2x2x2\_tr2000 bold\_100x100\_s3\_2x2x2\_tr2000 bold\_100x100\_s3\_2x2x2\_tr2000 bold\_100x100\_s3\_2x2x2\_tr2000 bold\_100x100\_s3\_2x2x2\_tr2000 bold\_100x100\_s3\_2x2x2\_tr2000 DTI\_BP\_64\_2x2x2\_s2\_p2\_6-8

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T1\localizer\_fl2d\_short\_64ch

TA: 5.1 s PM: REF Voxel size: 1.1×1.1×12.0 mmPAT: 2 Rel. SNR: 1.00 : fl

#### **Properties**

Prio recon	On
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	On
preparation	
Wait for user to start	Off
Start measurements	Single measurement

#### Routine

Slice group         1           Slices         7           Dist. factor         50 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Sagittal           Phase enc. dir.         A >> P           Slice group         2           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Transversal           Phase enc. dir.         A >> P           Slice group         3           Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normaliz		
Dist. factor         50 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Sagittal           Phase enc. dir.         A >> P           Slice group         2           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Transversal           Phase enc. dir.         A >> P           Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Slice group	1
Position Orientation Sagittal Phase enc. dir.  Slice group  Slices 1 Dist. factor Phase enc. dir.  Corientation Phase enc. dir.  Slice group  Slices 1 Dist. factor Phase enc. dir.  Slice group  Slice group  Slices 1 Dist. factor Phase enc. dir.  A >> P  Slice group  Slices 1 Dist. factor Position Coronal Phase enc. dir.  A >> L  AutoAlign Phase oversampling FoV read FoV phase Slice thickness TE Averages Concatenations Filter  Prescan Normalize, Elliptical filter	Slices	7
Orientation Phase enc. dir.  Sagittal Phase enc. dir.  A >> P  Slice group 2 Slices 1 Dist. factor Position Orientation Phase enc. dir.  Slice group 3 Slices 1 Dist. factor Position U.0.0 A10.0 H0.0 mm Orientation Phase enc. dir.  A >> P  Slice group 3 Slices 1 Dist. factor Position U.0.0 A10.0 H0.0 mm Orientation Orientation Orientation Phase enc. dir.  AutoAlign Phase oversampling FoV read Pov read Pov phase 100.0 % Slice thickness 12.0 mm TR T.5 ms TE 2.15 ms Averages 1 Concatenations 9 Filter Prescan Normalize, Elliptical filter	Dist. factor	50 %
Phase enc. dir.         A >> P           Slice group         2           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Transversal           Phase enc. dir.         A >> P           Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Position	L0.0 A10.0 H0.0 mm
Slice group         2           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Transversal           Phase enc. dir.         A >> P           Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Orientation	Sagittal
Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Transversal           Phase enc. dir.         A >> P           Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Phase enc. dir.	A >> P
Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Transversal           Phase enc. dir.         A >> P           Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Slice group	2
Position         L0.0 A10.0 H0.0 mm           Orientation         Transversal           Phase enc. dir.         A >> P           Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Slices	1
Orientation         Transversal           Phase enc. dir.         A >> P           Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Dist. factor	20 %
Phase enc. dir.         A >> P           Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Position	L0.0 A10.0 H0.0 mm
Slice group         3           Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Orientation	Transversal
Slices         1           Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Phase enc. dir.	A >> P
Dist. factor         20 %           Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Slice group	3
Position         L0.0 A10.0 H0.0 mm           Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Slices	1
Orientation         Coronal           Phase enc. dir.         R >> L           AutoAlign            Phase oversampling         0 %           FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	Dist. factor	20 %
Phase enc. dir.  AutoAlign  Phase oversampling  FoV read  FoV phase  Slice thickness  TE  Averages  Concatenations  Filter  Phase enc. dir.  R >> L  R	Position	L0.0 A10.0 H0.0 mm
AutoAlign Phase oversampling 0 % FoV read 280 mm FoV phase 100.0 % Slice thickness 12.0 mm TR 7.5 ms TE 2.15 ms Averages 1 Concatenations 9 Filter Prescan Normalize, Elliptical filter	Orientation	Coronal
Phase oversampling 0 %  FoV read 280 mm  FoV phase 100.0 %  Slice thickness 12.0 mm  TR 7.5 ms  TE 2.15 ms  Averages 1  Concatenations 9  Filter Prescan Normalize, Elliptical filter	Phase enc. dir.	R >> L
FoV read         280 mm           FoV phase         100.0 %           Slice thickness         12.0 mm           TR         7.5 ms           TE         2.15 ms           Averages         1           Concatenations         9           Filter         Prescan Normalize, Elliptical filter	AutoAlign	
FoV phase 100.0 %  Slice thickness 12.0 mm  TR 7.5 ms  TE 2.15 ms  Averages 1  Concatenations 9  Filter Prescan Normalize, Elliptical filter	Phase oversampling	0 %
Slice thickness 12.0 mm  TR 7.5 ms  TE 2.15 ms  Averages 1  Concatenations 9  Filter Prescan Normalize, Elliptical filter	FoV read	280 mm
TR 7.5 ms TE 2.15 ms Averages 1 Concatenations 9 Filter Prescan Normalize, Elliptical filter	FoV phase	100.0 %
TE 2.15 ms  Averages 1  Concatenations 9  Filter Prescan Normalize, Elliptical filter	Slice thickness	12.0 mm
Averages 1 Concatenations 9 Filter Prescan Normalize, Elliptical filter	TR	7.5 ms
Concatenations 9 Filter Prescan Normalize, Elliptical filter	TE	2.15 ms
Filter Prescan Normalize, Elliptical filter	Averages	1
Elliptical filter	Concatenations	9
·	Filter	
Coil elements HC1-7;NC1		•
	Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	7.5 ms
TE	2.15 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	25 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

#### **Contrast - Dynamic**

Multiple series

Resolution - Common		
FoV read	280 mm	
FoV phase	100.0 %	
Slice thickness	12.0 mm	
Base resolution	256	
Phase resolution	50 %	
Phase partial Fourier	Off	
Interpolation	Off	

Each measurement

#### **Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

#### **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

#### **Geometry - Common**

Slice group	1
Slices	7
Dist. factor	50 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	12.0 mm
TR	7.5 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	9

#### Geometry - AutoAlign

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal

#### **Geometry - AutoAlign**

Phase enc. dir.	A >> P
Slice group	2
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Position	L0.0 A10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

#### **Geometry - Saturation**

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

#### 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	Off - AutoCoilSelect

#### **System - Adjustments**

- ,	
B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
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	123.257797 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000

#### System - Tx/Rx

Reset	Off
? Ref. amplitude 1H	0.000 V

### Physio - Signal1

1st Signal/Mode	None
TR	7.5 ms
Concatenations	9
Segments	1

#### Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	280 mm
FoV phase	100.0 %
Phase resolution	50 %

#### **Physio - PACE**

Resp. control	Off
Concatenations	9

#### 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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#### Inline - MapIt

Save original images	On
MapIt	None
Flip angle	25 deg
Measurements	1
Contrasts	1
TR	7.5 ms
TE	2.15 ms

#### Sequence - Part 1

Introduction	Off
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No

#### SIEMENS MAGNETOM Prisma

# Sequence - Part 1

Multi-slice mode	Sequential
Bandwidth	320 Hz/Px

# Sequence - Part 2

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

# Sequence - Assistant

Mode	Off
Allowed delay	0 s

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T1\localizer\_fl2d\_sag\_for\_ACPC\_64ch

TA: 0:16 PM: FIX Voxel size: 1.0×1.0×3.5 mmPAT: 2 Rel. SNR: 1.00 : fl

#### **Properties**

Prio recon	On
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

Slice group	1
Slices	23
Dist. factor	10 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.5 mm
TR	160.0 ms
TE	2.27 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize,
	Elliptical filter
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	160.0 ms
TE	2.27 ms
MTC	Off
Magn. preparation	None
Flip angle	30 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

#### **Contrast - Dynamic**

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

#### **Resolution - Common**

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.5 mm
Base resolution	256
Phase resolution	80 %
Phase partial Fourier	7/8
Interpolation	Off

#### **Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

#### **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

#### **Geometry - Common**

Slice group	1
Slices	23
Dist. factor	10 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.5 mm
TR	160.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
Α	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

#### **Geometry - Saturation**

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

# System - Miscellaneous

Positioning mode	FIX
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

#### **System - Miscellaneous**

Save uncombined	Off
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - AutoCoilSelect

#### **System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
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	123.257797 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	160.0 ms
Concatenations	1
Segments	1

#### Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	256 mm
FoV phase	100.0 %
Phase resolution	80 %

#### 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

#### Inline - MIP

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

ſ	Distortion Corr.	Off	

#### Inline - MapIt

Save original images	On
MapIt	None
Flip angle	30 deg
Measurements	1
Contrasts	1
TR	160.0 ms
TE	2.27 ms

#### Sequence - Part 1

Off
2D
Off
Allowed
1
No
Interleaved
400 Hz/Px

#### Sequence - Part 2

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

#### Sequence - Assistant

Mode	Off
Allowed delay	0 s

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T1\t1\_mprage\_sag\_1x1x1\_p2\_64ch

TA: 6:03 PM: REF Voxel size: 1.0×1.0×1.0 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	On
Start measurements	Single measurement

#### Routine

Slab group	1
Slabs	1
Dist. factor	50 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	208
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	1.00 mm
TR	2530.0 ms
TE	2.27 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	2530.0 ms
TE	2.27 ms
Magn. preparation	Non-sel. IR
ТІ	1100 ms
Flip angle	7 deg
Fat suppr.	None
Fat suppr. Water suppr.	None

#### **Contrast - Dynamic**

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

#### **Resolution - Common**

FoV read	256 mm	
FoV phase	100.0 %	
Slice thickness	1.00 mm	
Base resolution	256	
Phase resolution	100 %	
Slice resolution	100 %	
Phase partial Fourier	Off	
Slice partial Fourier	Off	
Interpolation	Off	

#### **Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	32
Accel. factor 3D	1
Reference scan mode	Integrated

#### **Resolution - Filter Image**

Image Filter	Off	
Distortion Corr.	Off	
Prescan Normalize	On	
Unfiltered images	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	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	208
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	1.00 mm
TR	2530.0 ms
Multi-slice mode	Single shot
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

Slab group	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	Isocenter
L	0.0 mm
Р	0.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

#### **Geometry - Navigator**

#### **System - Miscellaneous**

Oyotom imooomanooa	
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

#### System - Miscellaneous

Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

#### **System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

#### **System - Adjust Volume**

Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
A >> P	256 mm
F >> H	256 mm
R >> L	208 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Non-sel.

#### System - Tx/Rx

Frequency 1H	123.257797 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

#### Physio - Signal1

1st Signal/Mode	None
TR	2530.0 ms
Concatenations	1

#### Physio - Cardiac

Magn. preparation	Non-sel. IR
П	1100 ms
Fat suppr.	None
Dark blood	Off
FoV read	256 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

#### Inline - MIP

Save original images	On	
Inline - Composing		
Distortion Corr	Off	

#### Inline - MapIt

Save original images	On
MapIt	None
Flip angle	7 deg
Measurements	1
TR	2530.0 ms
TE	2.27 ms

#### 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	6.8 ms
Bandwidth	190 Hz/Px

#### Sequence - Part 2

RF pulse type	Normal
Gradient mode	Fast
Excitation	Non-sel.
RF spoiling	On
Incr. Gradient spoiling	Off
Turbo factor	208

#### **Sequence - Assistant**

Mode	Off
Mode	Oli

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T1\field\_mapping\_2x2x2

TA: 2:27 PM: REF Voxel size: 2.0×2.0×2.0 mmRel. SNR: 1.00 : fm\_r

#### **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	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	720.0 ms
TE 1	4.92 ms
TE 2	7.38 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR TE 1 TE 2	720.0 ms
TE 1	4.92 ms
TE 2	7.38 ms
MTC	Off
Flip angle Fat suppr.	60 deg
Fat suppr.	None

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - Filter Image**

Image Filter	Off	
Distortion Corr.	Off	

#### **Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	720.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### Geometry - AutoAlign

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
Н	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat suppr.	None
Special sat.	None

#### **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	Off - AutoCoilSelect

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off

Assume Silicone	Off
Adjustment Tolerance	Auto

#### **System - Adjust Volume**

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	90.00 deg
R >> L	200 mm
A >> P	200 mm
F >> H	144 mm
Reset	Off

# System - pTx Volumes

B1 Shim mode	TrueForm
Di Cillii illogo	11401 01111

# System - Tx/Rx

Frequency 1H	123.257797 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

# Sequence - Part 1

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Flow comp.	Yes
Multi-slice mode	Interleaved
Bandwidth	568 Hz/Px

# Sequence - Part 2

RF pulse type	Normal
Gradient mode	Fast
RF spoiling	On

#### Sequence - Assistant

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

TA: 10:11 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	2000 ms	
TE MTC	34.0 ms	
MTC	Off	
Flip angle	90 deg	
Fat suppr.	Fat sat.	

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	300
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

1	Accel. mode	Slice accel.
	Accel. factor PE	1
	Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off	
Prescan Normalize	Off	

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
Α	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

#### **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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Confirm freq. adjustment Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

#### **System - Adjust Volume**

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	300
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

TA: 7:27 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	2000 ms
TE	34.0 ms
MTC	Off
Flip angle	90 deg
Fat suppr.	Fat sat.

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

1	Accel. mode	Slice accel.
	Accel. factor PE	1
	Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off
Prescan Normalize	Off

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

	<del>-</del>
Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat avers	Fat ant
Fat suppr.	Fat sat.
Special sat.	None

#### 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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Off Confirm freq. adjustment Off Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

#### **System - Adjust Volume**

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

# - 14 -

TA: 7:27 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

_		
Г	ΓR	2000 ms
h	ΓΕ MTC	34.0 ms
ľ	MTC	Off
F	Flip angle	90 deg
F	at suppr.	Fat sat.

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

1	Accel. mode	Slice accel.
	Accel. factor PE	1
	Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off	
Prescan Normalize	Off	

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### Geometry - AutoAlign

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

#### 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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Confirm freq. adjustment Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

#### System - Adjust Volume

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

TA: 7:27 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

_		
Г	ΓR	2000 ms
h	ΓΕ MTC	34.0 ms
ľ	MTC	Off
F	Flip angle	90 deg
F	at suppr.	Fat sat.

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

1	Accel. mode	Slice accel.
	Accel. factor PE	1
	Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off	
Prescan Normalize	Off	

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### Geometry - AutoAlign

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

#### 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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Confirm freq. adjustment Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

# System - Adjust Volume

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

TA: 7:27 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

_		
Г	ΓR	2000 ms
h	ΓΕ MTC	34.0 ms
ľ	MTC	Off
F	Flip angle	90 deg
F	at suppr.	Fat sat.

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

Accel. mode	Slice accel.
Accel. factor PE	1
Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off
Prescan Normalize	Off

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### Geometry - AutoAlign

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
Α	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat avers	Fat ant
Fat suppr.	Fat sat.
Special sat.	None

# 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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Confirm freq. adjustment Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

#### **System - Adjust Volume**

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

TA: 13:22 PM: FIX Voxel size: 2.0×2.0×2.0 mmPAT: 4 Rel. SNR: 1.00 : epse

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	5600 ms
TE	84.0 ms
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	5600 ms
TE	84.0 ms
MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Fat sat. mode	Strong

#### **Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

#### **Resolution - iPAT**

Accel. mode	Slice accel.
Accel. factor PE	2
Ref. lines PE	38
Accel. factor slice	2

# Resolution - iPAT Reference scan mode

Resolution - Filter Image	Ð	
Distortion Corr.	Off	
Prescan Normalize	Off	
Dynamic Field Corr.	Off	

EPI/separate

#### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	

#### **Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	5600 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### Geometry - AutoAlign

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

### **Geometry - Saturation**

Fat suppr.	Fat sat.
Fat sat. mode	Strong
Special sat.	None

#### **Geometry - Navigator**

#### **System - Miscellaneous**

Cyclom imocomunicous	
Positioning mode	FIX
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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

#### System - Adjust Volume

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	256 mm
R >> L	256 mm
F >> H	136 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	5600 ms
Concatenations	1

#### Physio - PACE

Resp. control	Off
Concatenations	1

#### **Diff - Neuro**

Diffusion mode	MDDW
Diff. directions	64
Diffusion Scheme	Bipolar
Diff. weightings	3
b-value 1	0 s/mm²
b-value 2	1500 s/mm <sup>2</sup>
b-value 3	2500 s/mm <sup>2</sup>
b-value 1	10
b-value 2	1
b-value 3	1
Diff. weighted images	On
Trace weighted images	Off
ADC maps	Off
FA maps	Off
Mosaic	On
Tensor	Off
Noise level	20

#### Diff - Body

•		
Diffusion mode	MDDW	
Diff. directions	64	
Diffusion Scheme	Bipolar	
Diff. weightings	3	
b-value 1	0 s/mm²	

#### Diff - Body

b-value 2	1500 s/mm²
b-value 3	2500 s/mm <sup>2</sup>
b-value 1	10
b-value 2	1
b-value 3	1
Diff. weighted images	On
Trace weighted images	Off
ADC maps	Off
Exponential ADC Maps	Off
FA maps	Off
Invert Gray Scale	Off
Calculated Image	Off
b-Value >=	0 s/mm²
Noise level	20

#### **Diff - Composing**

Distortion Corr.	Off	
	<del>= : :</del>	

#### Sequence - Part 1

-	
Introduction	On
Optimization	None
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.66 ms
Bandwidth	1860 Hz/Px

#### Sequence - Part 2

EPI factor	128
RF pulse type	Normal
Gradient mode	Performance*
Excitation	Standard

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T2\localizer\_fl2d\_short\_64ch

TA: 5.1 s PM: REF Voxel size: 1.1×1.1×12.0 mmPAT: 2 Rel. SNR: 1.00 : fl

#### **Properties**

Prio recon	On
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 preparation	On
Wait for user to start	Off
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	7
Dist. factor	50 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	
Phase oversampling	0 %
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	12.0 mm
TR	7.5 ms
TE	2.15 ms
Averages	1
Concatenations	9
Filter	Prescan Normalize,
	Elliptical filter
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	7.5 ms
TE	2.15 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	25 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

#### **Contrast - Dynamic**

Multiple series

Resolution - Common		
FoV read	280 mm	
FoV phase	100.0 %	
Slice thickness	12.0 mm	
Base resolution	256	
Phase resolution	50 %	
Phase partial Fourier	Off	
Interpolation	Off	

Each measurement

#### **Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

#### **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	On	

#### **Geometry - Common**

Coomony Common	
Slice group	1
Slices	7
Dist. factor	50 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	280 mm
FoV phase	100.0 %
Slice thickness	12.0 mm
TR	7.5 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	9

#### Geometry - AutoAlign

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal

#### **Geometry - AutoAlign**

Phase enc. dir.	A >> P
Slice group	2
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Position	L0.0 A10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
Α	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

#### **Geometry - Saturation**

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

#### 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	Off - AutoCoilSelect

### **System - Adjustments**

B0 Shim mode	Tune up	
B1 Shim mode	TrueForm	
Adjust with body coil	Off	
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	123.257797 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000

#### System - Tx/Rx

Reset	Off
? Ref. amplitude 1H	0.000 V

#### Physio - Signal1

1st Signal/Mode	None
TR	7.5 ms
Concatenations	9
Segments	1

#### Physio - Cardiac

Tagging	None
Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	280 mm
FoV phase	100.0 %
Phase resolution	50 %

#### **Physio - PACE**

Resp. control	Off
Concatenations	9

#### 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
------------------	-----

#### Inline - MapIt

Save original images	On
MapIt	None
Flip angle	25 deg
Measurements	1
Contrasts	1
TR	7.5 ms
TE	2.15 ms

#### Sequence - Part 1

Introduction	Off
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No

#### SIEMENS MAGNETOM Prisma

# Sequence - Part 1

Multi-slice mode	Sequential
Bandwidth	320 Hz/Px

# Sequence - Part 2

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

# Sequence - Assistant

Mode	Off
Allowed delay	0 s

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T2\localizer\_fl2d\_sag\_for\_ACPC\_64ch

TA: 0:16 PM: FIX Voxel size: 1.0×1.0×3.5 mmPAT: 2 Rel. SNR: 1.00 : fl

#### **Properties**

Prio recon	On
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

Slice group	1
Slices	23
Dist. factor	10 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.5 mm
TR	160.0 ms
TE	2.27 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize, Elliptical filter
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	160.0 ms
TE	2.27 ms
MTC	Off
Magn. preparation	None
Flip angle	30 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

#### **Contrast - Dynamic**

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

#### **Resolution - Common**

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.5 mm
Base resolution	256
Phase resolution	80 %
Phase partial Fourier	7/8
Interpolation	Off

#### **Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

#### **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	On

#### **Geometry - Common**

Slice group	1
Slices	23
Dist. factor	10 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	3.5 mm
TR	160.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
Α	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

#### **Geometry - Saturation**

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

#### **System - Miscellaneous**

•	
Positioning mode	FIX
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

#### **System - Miscellaneous**

Save uncombined	Off
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - AutoCoilSelect

#### **System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
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	123.257797 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	160.0 ms
Concatenations	1
Segments	1

#### Physio - Cardiac

<b>,</b>		
Tagging	None	
Magn. preparation	None	
Fat suppr.	None	
Dark blood	Off	
FoV read	256 mm	
FoV phase	100.0 %	
Phase resolution	80 %	

#### 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
HVIIF-Sau	Oli

#### Inline - MIP

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**

ſ	Distortion Corr.	Off	

#### Inline - MapIt

Save original images	On
MapIt	None
Flip angle	30 deg
Measurements	1
Contrasts	1
TR	160.0 ms
TE	2.27 ms

#### Sequence - Part 1

Off
2D
Off
Allowed
1
No
Interleaved
400 Hz/Px

#### Sequence - Part 2

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

#### **Sequence - Assistant**

Mode	Off	
Allowed delay	0 s	

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T2\t2\_space\_sag\_1x1x1\_p2\_64ch

TA: 5:18 PM: REF Voxel size: 1.0×1.0×1.0 mmPAT: 2 Rel. SNR: 1.00 : spcR

#### **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	On
Start measurements	Single measurement

#### Routine

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	192
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	1.00 mm
TR	3200 ms
TE	408 ms
Averages	1.0
Concatenations	1
Filter	Raw filter, Prescan
	Normalize
Coil elements	HC1-7;NC1

#### **Contrast - Common**

200 ms
08 ms
Off
lone
lone
Off
n e
(()

#### **Contrast - Dynamic**

Averages	1.0
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

#### **Resolution - Common**

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	1.00 mm
Base resolution	256
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Allowed
Slice partial Fourier	Off
Interpolation	Off

#### **Resolution - iPAT**

PAT mode	GRAPPA	
Accel. factor PE	2	
Ref. lines PE	32	
Accel. factor 3D	1	
Reference scan mode	Integrated	

#### **Resolution - Filter Image**

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

#### **Resolution - Filter Rawdata**

Raw filter	On	
Elliptical filter	Off	

#### **Geometry - Common**

Slab group	1
Slabs	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	192
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	1.00 mm
TR	3200 ms
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

, ,	
Slab group	1
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	Isocenter
L	0.0 mm
Р	0.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

#### **Geometry - Saturation**

Fat suppr.	None
Restore magn.	On
Special sat.	None

#### **Geometry - Navigator**

#### **System - Miscellaneous**

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

#### **System - Miscellaneous**

Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

#### **System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

#### System - Adjust Volume

Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
A >> P	256 mm
F >> H	256 mm
R >> L	192 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Non-sel.

#### System - Tx/Rx

Frequency 1H	123.257797 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
Trigger delay	0 ms
TR	3200 ms
Concatenations	1

#### Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	256 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

Off

#### Inline - MIP

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

#### Inline - Composing

Distortion Corr.	Off	

#### Sequence - Part 1

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Flow comp.	No
Echo spacing	3.4 ms
Adiabatic-mode	Off
Bandwidth	723 Hz/Px

#### Sequence - Part 2

Echo train duration	891 ms
RF pulse type	Normal
Gradient mode	Performance
Excitation	Non-sel.
Flip angle mode	T2 var
Turbo factor	282

#### **Sequence - Assistant**

Allowed delay	30 s

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T2\field\_mapping\_2x2x2

TA: 2:27 PM: REF Voxel size: 2.0×2.0×2.0 mmRel. SNR: 1.00 : fm\_r

#### **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	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	720.0 ms
TE 1	4.92 ms
TE 2	7.38 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR TE 1 TE 2	720.0 ms
TE 1	4.92 ms
TE 2	7.38 ms
MTC	Off
Flip angle Fat suppr.	60 deg
Fat suppr.	None

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

#### **Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	720.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### Geometry - AutoAlign

,	
Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
Α	10.0 mm
Н	0.0 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat suppr.	None
Special sat.	None

#### **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	Off - AutoCoilSelect

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off

Assume Silicone	Off
Adjustment Tolerance	Auto

#### **System - Adjust Volume**

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	90.00 deg
R >> L	200 mm
A >> P	200 mm
F >> H	144 mm
Reset	Off

# System - pTx Volumes

B1 Shim mode	TrueForm
Di Cillii illogo	11401 01111

# System - Tx/Rx

Frequency 1H	123.257797 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

# Sequence - Part 1

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Flow comp.	Yes
Multi-slice mode	Interleaved
Bandwidth	568 Hz/Px

#### Sequence - Part 2

RF pulse type	Normal
Gradient mode	Fast
RF spoiling	On

#### Sequence - Assistant

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

TA: 10:11 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	2000 ms
TE MTC	34.0 ms
MTC	Off
Flip angle	90 deg
Fat suppr.	Fat sat.

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	300
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

1	Accel. mode	Slice accel.
	Accel. factor PE	1
	Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off	
Prescan Normalize	Off	

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### Geometry - AutoAlign

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
Α	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

#### 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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Confirm freq. adjustment Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

#### **System - Adjust Volume**

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	300
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T2\bold\_100x100\_s3\_2x2x2\_tr2000

TA: 7:27 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	2000 ms	
TE MTC	34.0 ms	
MTC	Off	
Flip angle	90 deg	
Fat suppr.	Fat sat.	

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

1	Accel. mode	Slice accel.
	Accel. factor PE	1
	Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off	
Prescan Normalize	Off	

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

#### **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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Confirm freq. adjustment Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

#### **System - Adjust Volume**

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

# - 35 -

TA: 7:27 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

_		
Г	ΓR	2000 ms
h	ΓΕ MTC	34.0 ms
ľ	MTC	Off
F	Flip angle	90 deg
F	at suppr.	Fat sat.

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

1	Accel. mode	Slice accel.
	Accel. factor PE	1
	Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off	
Prescan Normalize	Off	

#### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	
Hamming	Off	

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
Α	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

#### **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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Off Confirm freq. adjustment Off Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

# System - Adjust Volume

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

# - 37 -

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T2\bold\_100x100\_s3\_2x2x2\_tr2000

TA: 7:27 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	2000 ms	
TE MTC	34.0 ms	
MTC	Off	
Flip angle	90 deg	
Fat suppr.	Fat sat.	

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

1	Accel. mode	Slice accel.
	Accel. factor PE	1
	Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off	
Prescan Normalize	Off	

#### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	
Hamming	Off	

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat avers	Fat ant
Fat suppr.	Fat sat.
Special sat.	None

#### **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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Confirm freq. adjustment Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

#### **System - Adjust Volume**

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EDI (t	400
EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

#### \\USER\BNU\_P2018\_64CH\Liu.Jia\qu.yukun\_20190320\_T2\bold\_100x100\_s3\_2x2x2\_tr2000

TA: 7:27 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: 3 Rel. SNR: 1.00 : epfid

#### **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	On
Start measurements	Single measurement

#### **Routine**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
TE	34.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

_		
Г	ΓR	2000 ms
h	ΓΕ MTC	34.0 ms
ľ	MTC	Off
F	Flip angle	90 deg
F	at suppr.	Fat sat.

#### **Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

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

#### **Resolution - iPAT**

1	Accel. mode	Slice accel.
	Accel. factor PE	1
	Ref. lines PE	32

#### **Resolution - iPAT**

Accel. factor slice	3
Reference scan mode	EPI/separate

#### **Resolution - Filter Image**

Distortion Corr.	Off	
Prescan Normalize	Off	

#### **Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

#### **Geometry - Common**

Slice group	1
Slices	72
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	200 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	2000 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
Α	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

#### **Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

#### 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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode	Standard
B1 Shim mode	TrueForm

# Adjust with body coil Confirm freq. adjustment Assume Dominant Fat Off Assume Silicone Off Adjustment Tolerance Auto

#### **System - Adjust Volume**

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	144 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	2000 ms
Concatenations	1

#### **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	3
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Motion correction	Off
Spatial filter	Off
Measurements	218
Delay in TR	0 ms
Multiple series	Off

#### Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.54 ms
Bandwidth	2380 Hz/Px

#### Sequence - Part 2

EPI factor	100
RF pulse type	Normal
Gradient mode	Performance
Excitation	Standard

# - 41 -

TA: 13:22 PM: FIX Voxel size: 2.0×2.0×2.0 mmPAT: 4 Rel. SNR: 1.00 : epse

#### **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	On
Start measurements	Single measurement

#### Routine

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	5600 ms
TE	84.0 ms
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1

#### **Contrast - Common**

TR	5600 ms
TE	84.0 ms
MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Fat sat. mode	Strong

#### **Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Delay in TR	0 ms
Multiple series	Off

#### **Resolution - Common**

FoV read	256 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

#### **Resolution - iPAT**

Accel. mode	Slice accel.
Accel. factor PE	2
Ref. lines PE	38
Accel. factor slice	2

# Resolution - iPAT Reference scan mode

Resolution - Filter Image		
Distortion Corr.	Off	
Prescan Normalize	Off	
Dynamic Field Corr.	Off	

EPI/separate

#### **Resolution - Filter Rawdata**

Raw filter	Off	
Elliptical filter	Off	

#### **Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	5600 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

#### **Geometry - AutoAlign**

Slice group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
Н	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

### **Geometry - Saturation**

Fat suppr.	Fat sat.
Fat sat. mode	Strong
Special sat.	None

#### **Geometry - Navigator**

#### **System - Miscellaneous**

Positioning mode	FIX
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
Matrix Optimization	Off
AutoAlign	
Coil Select Mode	Off - All

B0 Shim mode		Standard	
B1 Shim mode		TrueForm	
Adjust with body	y coil	Off	
Confirm freq. ac	ljustment	Off	
Assume Domina	ant Fat	Off	
Assume Silicon	е	Off	
Adjustment Tole	erance	Auto	

#### System - Adjust Volume

Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P R >> L	256 mm
R >> L	256 mm
F >> H	136 mm
Reset	Off

#### System - pTx Volumes

B1 Shim mode	TrueForm
Excitation	Standard

#### System - Tx/Rx

Frequency 1H	123.257797 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	5600 ms
Concatenations	1

#### Physio - PACE

Resp. control	Off
Concatenations	1

#### **Diff - Neuro**

1 <sup>2</sup>
1 <sup>2</sup>

#### Diff - Body

Diffusion mode	MDDW
Diff. directions	64
Diffusion Scheme	Bipolar
Diff. weightings	3
b-value 1	0 s/mm²

#### Diff - Body

b-value 2	1500 s/mm²
b-value 3	2500 s/mm <sup>2</sup>
b-value 1	10
b-value 2	1
b-value 3	1
Diff. weighted images	On
Trace weighted images	Off
ADC maps	Off
Exponential ADC Maps	Off
FA maps	Off
Invert Gray Scale	Off
Calculated Image	Off
b-Value >=	0 s/mm²
Noise level	20

#### **Diff - Composing**

Distortion Corr.	Off	

#### Sequence - Part 1

•	
Introduction	On
Optimization	None
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.66 ms
Bandwidth	1860 Hz/Px

#### Sequence - Part 2

EPI factor	128
RF pulse type	Normal
Gradient mode	Performance*
Excitation	Standard