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\\USER

DavRic

SiteProtocols

Blumenfeld\_Templeton\_Ex1

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\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\localizer\_32

TA: 0:12 PM: REF Voxel size: 0.5×0.5×7.0 mmPAT: Off 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	On
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	1
Dist. factor	20 %
Position	L0.0 A45.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	1
Dist. factor	20 %
Position	L0.0 A20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	1
Dist. factor	20 %
Position	L0.0 A20.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	250 mm
FoV phase	100.0 %
Slice thickness	7.0 mm
TR	7.5 ms
TE	3.69 ms
Averages	2
Concatenations	3
Filter	Prescan Normalize, Elliptical filter
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	7.5 ms
TE	3.69 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

Averages	2
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

**Contrast - Dynamic**

Multiple series	Each measurement
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**Resolution - Common**

FoV read	250 mm
FoV phase	100.0 %
Slice thickness	7.0 mm
Base resolution	256
Phase resolution	91 %
Phase partial Fourier	Off
Interpolation	On

**Resolution - iPAT**

PAT mode	None
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**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	1
Dist. factor	20 %
Position	L0.0 A45.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	1
Dist. factor	20 %
Position	L0.0 A20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	1
Dist. factor	20 %
Position	L0.0 A20.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	250 mm
FoV phase	100.0 %
Slice thickness	7.0 mm
TR	7.5 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	3

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A45.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	L0.0 A20.0 H0.0 mm

**Geometry - AutoAlign**

Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Position	L0.0 A20.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A45.0 H0.0
L	0.0 mm
A	45.0 mm
H	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	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - All

**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	123.253461 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	7.5 ms
Concatenations	3
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	250 mm
FoV phase	100.0 %
Phase resolution	91 %

**Physio - PACE**

Resp. control	Off
Concatenations	3

**Inline - Common**

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

**Inline - MIP**

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

**Inline - Soft Tissue**

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

**Inline - Composing**

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

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No
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\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\Anat\_t1\_mprage\_sag\_ipat2\_1p0iso

TA: 5:21 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	Head > Brain
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	2300.0 ms
TE	3.03 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize, Elliptical filter
Coil elements	HEA;HEP

**Contrast - Common**

TR	2300.0 ms
TE	3.03 ms
Magn. preparation	Non-sel. IR
TI	1100 ms
Flip angle	8 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	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

**Resolution - Common**

Interpolation	Off
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**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
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	On

**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	192
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	1.00 mm
TR	2300.0 ms
Multi-slice mode	Single shot
Series	Ascending
Concatenations	1

**Geometry - AutoAlign**

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

**Geometry - Navigator****System - Miscellaneous**

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

**System - Miscellaneous**

Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	Head > Brain
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	On
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	123.253461 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	2300.0 ms
Concatenations	1

**Physio - Cardiac**

Magn. preparation	Non-sel. IR
TI	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
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**Inline - MIP**

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

**Inline - Composing**

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

Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Allowed
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	8.9 ms
Bandwidth	130 Hz/Px

**Sequence - Part 2**

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

**Sequence - Assistant**

Mode	Off
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\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\AAHead\_Scout

TA: 0:14 PM: REF Voxel size: 1.6×1.6×1.6 mmPAT: 3 Rel. SNR: 1.00 : fl

**Properties**

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	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**

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A45.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
TE	1.37 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize
Coil elements	HE1-4

**Contrast - Common**

TR	3.15 ms
TE	1.37 ms
Flip angle	8 deg

**Contrast - Dynamic**

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

**Resolution - Common**

FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
Base resolution	160
Phase resolution	100 %
Slice resolution	69 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Trajectory	Cartesian

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24
Accel. factor 3D	1

**Resolution - iPAT**

Reference scan mode	Integrated
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**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	20 %
Position	L0.0 A45.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.15 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A45.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

**System - Miscellaneous**

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

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off

**System - Adjustments**

Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**Sequence - Part 2**

RF spoiling	On
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**Sequence - Assistant**

Mode	Off
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**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	Non-sel.

**System - Tx/Rx**

Frequency 1H	123.253461 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - PACE**

Resp. control	Off
Concatenations	1

**Inline - Common**

Flip angle	8 deg
Measurements	1
Time to center	6.2 s

**Inline - Inline**

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

**Inline - MIP**

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

**Inline - Composing**

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

Introduction	On
Dimension	3D
Asymmetric echo	Weak
Contrasts	1
Multi-slice mode	Sequential
Bandwidth	540 Hz/Px

**Sequence - Part 2**

RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DC1\_cmrr\_2iso\_mb4\_TR1500\_inv

TA: 0:18 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off 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	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	5
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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



**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	5
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	On
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DurR1\_cmrr\_2iso\_mb4\_TR1500

TA: 12:41 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off Rel. SNR: 1.00 : epdf

**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 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DurR2\_cmrr\_2iso\_mb4\_TR1500

TA: 12:41 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off Rel. SNR: 1.00 : epfd

**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 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DurR3\_cmrr\_2iso\_mb4\_TR1500

TA: 12:41 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off Rel. SNR: 1.00 : epfd

**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 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DurR4\_cmrr\_2iso\_mb4\_TR1500

TA: 12:41 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off Rel. SNR: 1.00 : epfd

**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 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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



**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DC2\_cmrr\_2iso\_mb4\_TR1500\_inv

TA: 0:18 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off 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	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	5
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	5
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	On
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DurR5\_cmrr\_2iso\_mb4\_TR1500

TA: 12:41 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off Rel. SNR: 1.00 : epfd

**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 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DurR6\_cmrr\_2iso\_mb4\_TR1500

TA: 12:41 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off Rel. SNR: 1.00 : epfd

**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 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DurR7\_cmrr\_2iso\_mb4\_TR1500

TA: 12:41 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off Rel. SNR: 1.00 : epfd

**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 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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



**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DurR8\_cmrr\_2iso\_mb4\_TR1500

TA: 12:41 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off Rel. SNR: 1.00 : epfd

**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 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	500
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard

\\USER\\DavRic\\SiteProtocols\\Blumenfeld\_Templeton\_Ex1\\DC3\_cmrr\_2iso\_mb4\_TR1500\_inv

TA: 0:18 PM: REF Voxel size: 2.0×2.0×2.0 mmPAT: Off 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	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
TE	39.60 ms
Multi-band accel. factor	4
Filter	Prescan Normalize
Coil elements	HC4,6,7

**Contrast - Common**

TR	1500 ms
TE	39.60 ms
MTC	Off
Magn. preparation	None
Flip angle	75 deg
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	5
Delay in TR	0 ms
Multiple series	Off

**Resolution - Common**

FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
Base resolution	104
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - iPAT**

PAT mode	None
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**Resolution - Filter Image**

Distortion Corr.	Off
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**Resolution - Filter Image**

Prescan Normalize	On
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**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off
Hamming	Off

**Geometry - Common**

Slice group	1
Slices	68
Dist. factor	0 %
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
FoV read	210 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1500 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	4

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Phase enc. dir.	A >> P
AutoAlign	Head > Brain
Initial Position	L0.0 P3.0 H6.0
L	0.0 mm
P	3.0 mm
H	6.0 mm
Initial Rotation	0.00 deg
Initial Orientation	T > C
T > C	-20.0
> S	0.0

**Geometry - Saturation**

Fat suppr.	Fat sat.
Special sat.	None

**System - Miscellaneous**

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

**System - Adjustments**

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

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 P3.0 H6.0 mm
Orientation	T > C-20.0
Rotation	0.00 deg
A >> P	210 mm
R >> L	210 mm
F >> H	136 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Standard

**System - Tx/Rx**

Frequency 1H	123.253461 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	1500 ms
Multi-band accel. factor	4

**BOLD**

GLM Statistics	Off
Dynamic t-maps	Off
Ignore meas. at start	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off
Measurements	5
Delay in TR	0 ms
Multiple series	Off

**Sequence - Part 1**

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	0.58 ms
Bandwidth	2090 Hz/Px

**Sequence - Part 2**

EPI factor	104
Gradient mode	Performance
Excitation	Standard
RF spoiling	Off

**Sequence - Special**

Excite pulse duration	6000 us
Single-band images	On
MB LeakBlock kernel	On
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	On
Disable freq. update	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	1.00
Physio recording	Off
Triggering scheme	Standard