\\USER\head\research protocol\f MRI\localizer TA:0:13 PAT:Off Voxel size:0.5×0.5×7.0 mm Rel. SNR:1.00 :fl

Properties—			
Troportion	Prio Recon	On	
	Load to viewer	On	
	Inline movie	Off	
	Auto store images	On	
	Load to stamp segments	On	
	Load images to graphic se	egments On	
	Auto open inline display	Off	
	Wait for user to start	Off	
	Start measurements	single	
Routine			
	Nr. of slice groups	3	
	Slices	1	
	Dist. factor	20 %	
	Position	L0.0 P30.0 H0.0 mm	
	Orientation	Sagittal	
	Phase enc. dir.	A >> P	
	AutoAlign	Head > Basis	
	Phase oversampling	0 %	
	FoV read	250 mm	
	FoV phase	100.0 %	
	Slice thickness	7.0 mm	
	TR	8.6 ms	
	TE	4.00 ms	
	Averages	2	
	Concatenations	3	
	Filter	Prescan Normalize, Elliptical filter	
	Coil elements	HEA;HEP	
Contrast—			
	TD	0 ms	
	MTC	Off	
	Magn. preparation	None	
	Flip angle	20 deg	
	Fat suppr.	None	
	Water suppr.	None	
	SWI	Off	
	Averaging mode	Short term	
	Measurements	1	
	Reconstruction	Magnitude	
	Multiple series	Each measurement	

Resolution—			
	Base resolution	256	
	Phase resolution	90 %	
	Phase partial Fourier	Off	
	Interpolation	On	
	PAT mode	None	
	Image Filter	Off	
	Distortion Corr.	Off	
	TD	0 ms	
	Matrix Coil Mode	Auto (Triple)	
	Unfiltered images	Off	
	Prescan Normalize	On	
	Normalize	Off	
	B1 filter	Off	
	Raw filter	Off	
	Elliptical filter	On	
	Mode	Inplane	
Geometry			
	Nr. of slice groups	3	
	Slices	1	
	Dist. factor	20 %	
	Position	L0.0 P30.0 H0.0 mm	
	Phase enc. dir.	A >> P	
	Phase oversampling	0 %	
	Multi-slice mode	Sequential	
	Series	Interleaved	
	Saturation mode	Standard	
	Nr. of sat. regions	0	
1	Position mode	L-P-H	
	Fat suppr.	None	
	Fat suppr. Water suppr.	None None	
	11		
	Water suppr.	None	

¬System—			
	Body	Off	
	HEP	On	
	HEA	On	
	Position mode	L-P-H	
	Positioning mode	REF	
	Table position	Н	
	Table position	0 mm	
	MSMA	S - C - T	
	Sagittal	R >> L	
	Coronal	A >> P	
	Transversal	F >> H	
	Save uncombined	Off	
	Coil Combine Mode	Adaptive Combine	
	AutoAlign	Head > Basis	
	Coil Select Mode	Default	
	Shim mode	Tune up	
	Adjust with body coil	Off	
	Confirm freq. adjustment	Off	
	Assume Dominant Fat	Off	
	Assume Silicone	Off	
	Adjustment Tolerance	Auto	
	? Ref. amplitude 1H	0.000 V	
	Position	Isocenter	
	Rotation	0.00 deg	
	R >> L	350 mm	
	A >> P	263 mm	
	F >> H	350 mm	
	Frequency 1H	123.225677 MHz	
	Correction factor	1	
	SRFExcit 1H	103.379 V	
	Gain	High	
	Table position	0 mm	
	Matrix Coil Mode	Auto (Triple)	
	Img. Scale. Cor.	1.000	
Physio			
	1st Signal/Mode	None	
	Segments	1	
	Magn. preparation	None	
	Dark blood	Off	
	Resp. control	Off	
-Inline			
	Distortion correction	Off	

Sequence			
Introducti		On	
Dimension	n	2D	
Averaging	g mode	Short term	
Multi-slic	e mode	Sequential	
Asymmetr	ric echo	Allowed	
Contrasts		1	
Bandwidt	h	320 Hz/Px	
Flow com	p.	No	
Allowed o	lelay	0 s	
RF pulse t	type	Normal	
Gradient r	mode	Normal	
Excitation	1	Slice-sel.	
RF spoilir	ng	On	
TX/RX de	elta frequency	0 Hz	
TX Nucle		None	
TX delta f	frequency	0 Hz	
Coil eleme	ents	HEA;HEP	
Acquisitio	on duration	0 ms	
Mode		Off	
BOLD—			

Off
Off
On
Off
1
On
Off

\\USER\head\research protocol\f MRI\MPRAGE TA:9:14 PAT:Off Voxel size:1.0×1.0×1.2 mm Rel. SNR:1.00 :tfl

Properties—			
_	Prio Recon	Off	
	Load to viewer	On	
	Inline movie	Off	
	Auto store images	On	
	Load to stamp segmen	nts Off	
	Load images to graphi	ic segments Off	
	Auto open inline displ	ay Off	
	Wait for user to start	Off	
	Start measurements	single	
Routine			
	Nr. of slab groups	1	
	Slabs	1	
	Dist. factor	50 %	
	Position	Isocenter	
	Orientation	Sagittal	
	Phase enc. dir.	A >> P	
	AutoAlign		
	Phase oversampling	0 %	
	Slice oversampling	0.0 %	
	FoV read	256 mm	
	FoV phase	93.8 %	
	Slice thickness	1.20 mm	
	TR	2300.0 ms	
	TE	2.98 ms	
	Averages	1	
	Concatenations	1	
	Filter D	vistortion Corr.(3D), Prescan Normalize	
	Coil elements	HEA;HEP;NE2	
-Contrast			
	Magn. preparation	Non-sel. IR	
	TI	900 ms	
	Flip angle	9 deg	
	Fat suppr.	None	
	Water suppr.	None	
	Averaging mode	Long term	
	Measurements	1	
	Reconstruction	Magnitude	
	Multiple series	Off	

-Resolution-			
	Base resolution	256	
	Phase resolution	100 %	
	Phase partial Fourier	Off	
	Interpolation	Off	
	PAT mode	None	
	Image Filter	Off	
	Distortion Corr.	On	
	Matrix Coil Mode	Auto (Triple)	
	Mode	3D	
	Unfiltered images	Off	
	Unfiltered images	Off	
	Prescan Normalize	On	
	Normalize	Off	
	B1 filter	Off	
	Raw filter	Off	
	Elliptical filter	Off	
	Slice resolution	100 %	
	Slice partial Fourier	Off	
-Geometry-			
	Nr. of slab groups	1	
	Slabs	1	
	Dist. factor	50 %	
	Position	Isocenter	
	Phase enc. dir.	A >> P	
	Phase oversampling	0 %	
	Slice oversampling	0.0 %	
	Slices per slab	160	
	Multi-slice mode	Single shot	
	Series	Interleaved	
	Nr. of sat. regions	0	
	Position mode	L-P-H	
		Mana	
	Fat suppr.	None	
	Fat suppr. Water suppr.	None	
	= =		

- System			
System—	Body	Off	
	NE2	On	
	HEP	On	
	HEA	On	
	SP4	Off	
	SP2	Off	
	SP8	Off	
	SP6	Off	
	SP3	Off	
	SP1	Off	
	SP7	Off	
	SP5	Off	
	Position mode	L-P-H	
	Positioning mode	REF	
	Table position	Н	
	Table position	0 mm	
	MSMA	S - C - T	
	Sagittal	R >> L	
	Coronal	A >> P	
	Transversal	F >> H	
	Save uncombined	Off	
	Coil Combine Mode	Adaptive Combine	
	AutoAlign		
	Coil Select Mode	On - AutoCoilSelect	
	Shim mode	Standard	
	Adjust with body coil	Off	
	Confirm freq. adjustment	Off	
	Assume Dominant Fat	Off	
	Assume Silicone	Off	
	Adjustment Tolerance	Auto	
	? Ref. amplitude 1H	0.000 V	
	Position	Isocenter	
	Rotation	0.00 deg	
	F >> H	256 mm	
	A >> P	240 mm	
	R >> L	192 mm	
	Frequency 1H	123.225677 MHz	
	Correction factor	1	
	SLoopIRns1 1H	976.792 V	
	Gain	High	
	Table position	0 mm	
	Matrix Coil Mode	Auto (Triple)	
	Img. Scale. Cor.	1.000	

-Physio			
J	1st Signal/Mode	None	
	Magn. preparation	Non-sel. IR	
	TI	900 ms	
	Dark blood	Off	
	Resp. control	Off	
Inline			
	Distortion correction	Off	
Sequence			
	Introduction	On	
	Dimension	3D	
	Elliptical scanning	Off	
	Averaging mode	Long term	
	Multi-slice mode	Single shot	
	Reordering	Linear	
	Asymmetric echo	Off	
	Bandwidth	240 Hz/Px	
	Flow comp.	No	
	Echo spacing	7.1 ms	
	Turbo factor	160	
	RF pulse type	Fast	
	Gradient mode	Normal	
	Excitation	Non-sel.	
	RF spoiling	On	
	TX/RX delta frequency	0 Hz	
	TX Nucleus	None	
	TX delta frequency	0 Hz	
	Coil elements	HEA;HEP;NE2	
	Acquisition duration	0 ms	
	Mode	Off	
BOLD-			
	Subtract	Off	
	StdDev	Off	
	MIP-Sag	Off	
	MIP-Cor	Off	
	MIP-Tra	Off	
	MIP-Time	Off	
	Save original images	On	
	Distortion Corr.	On	
	Mode	3D	
	Unfiltered images	Off	
	Save original images	On	

\\USER\head\research protocol\f MRI\ep2d_bold_moco_fmri TA:6:09 PAT:2 Voxel size:3.4×3.4×2.4 mm Rel. SNR:1.00 :epfid

Properties-			
	Prio Recon	Off	
	Load to viewer	On	
	Inline movie	Off	
	Auto store images	On	
	Load to stamp segments	Off	
	Load images to graphic segments	Off	
	Auto open inline display	Off	
	Wait for user to start	Off	
	Start measurements	single	
Routine			
	Nr. of slice groups	1	
	Slices	40	
	Dist. factor	40 %	
	Position	Isocenter	
	Orientation	Transversal	
	Phase enc. dir.	A >> P	
	AutoAlign		
	Phase oversampling	0~%	
	FoV read	218 mm	
	FoV phase	100.0 %	
	Slice thickness	2.4 mm	
	TR	2200 ms	
	TE	30.0 ms	
	Averages	1	
	Concatenations	1	
	Filter	Raw filter	
	Coil elements	HEA;HEP	
-Contrast-			
	MTC	Off	
	Flip angle	75 deg	
	Fat suppr.	Fat sat.	
	Averaging mode	Long term	
	Measurements	164	
	Delay in TR	0 ms	
	Reconstruction	Magnitude	
	Multiple series	Off	

Resolution-			
	Base resolution	64	
	Phase resolution	100 %	
	Phase partial Fourier	Off	
	Interpolation	Off	
	PAT mode	mSENSE	
	Accel. factor PE	2	
	Ref. lines PE	24	
	Reference scan mode	Separate	
	Distortion Corr.	Off	
	Hamming	Off	
	Matrix Coil Mode	Auto (Triple)	
	Prescan Normalize	Off	
	Raw filter	On	
	Intensity	Weak	
	Slope	25	
	Elliptical filter	Off	
Geometry—			
	Nr. of slice groups	1	
	Slices	40	
	Dist. factor	40 %	
	Position	Isocenter	
	Phase enc. dir.	A >> P	
	Phase oversampling	0 %	
	Multi-slice mode	Interleaved	
	Series	Interleaved	
	Nr. of sat. regions	0	
	Position mode	L-P-H	
	Fat suppr.	Fat sat.	
	Special sat.	None	
		3.7	

Special sat.

Table position

None

P

System—		
	Body	Off
	NE2	Off
	HEP	On
	HEA	On
	SP4	Off
	SP2	Off
	SP8	Off
	SP6	Off
	SP3	Off
	SP1	Off
	SP7	Off
	SP5	Off
	Position mode	L-P-H
	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
	AutoAlign	
	Coil Select Mode	On - AutoCoilSelect
	Shim mode	Standard
	Adjust with body coil	Off
	Confirm freq. adjustment	Off
	Assume Dominant Fat	Off
	Assume Silicone	Off
	Adjustment Tolerance	Auto
	? Ref. amplitude 1H	0.000 V
	Position	Isocenter
	Rotation	0.00 deg
	R >> L	218 mm
	A >> P	218 mm
	F >> H	134 mm
	Frequency 1H	123.225677 MHz
	Correction factor	1
	SincRFPulse 1H	551.690 V
	Gain	High
	Table position	0 mm
	Matrix Coil Mode	Auto (Triple)
	Img. Scale. Cor.	1.000
Physio		
I		

1st Signal/Mode

None

-Inline			
	Distortion correction	Off	
Sequence—			
	Introduction	On	
	Averaging mode	Long term	
	Multi-slice mode	Interleaved	
	Bandwidth	2004 Hz/Px	
	Free echo spacing	Off	
	Echo spacing	0.58 ms	
	EPI factor	64	
	RF pulse type	Normal	
	Gradient mode	Fast*	
	TX/RX delta frequency	0 Hz	
	TX Nucleus	None	
	TX delta frequency	0 Hz	
	Coil elements	HEA;HEP	
	Acquisition duration	0 ms	
BOLD			
	GLM Statistics	On	
	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	
	Motion correction	On	
	Spatial filter	Off	
	Delay in TR	0 ms	
	Distortion Corr.	Off	

\\USER\head\research protocol\f MRI\ep2d_diff_mddw_30_P>>A_p2 TA:9:02 PAT:2 Voxel size:2.4×2.4×2.4 mm Rel. SNR:1.00 :epse

Properties—			
r	Prio Recon	Off	
	Load to viewer	On	
	Inline movie	Off	
	Auto store images	On	
	Load to stamp segments	Off	
	Load images to graphic segmen	ts Off	
	Auto open inline display	Off	
	Wait for user to start	Off	
	Start measurements	single	
Routine			
	Nr. of slice groups	1	
	Slices	60	
	Dist. factor	0 %	
	Position	Isocenter	
	Orientation	Transversal	
	Phase enc. dir.	P >> A	
	AutoAlign		
	Phase	0 %	
	oversampling		
	FoV read	307 mm	
	FoV phase	100.0 %	
	Slice thickness	2.4 mm	
	TR	15000 ms	
	TE	100.0 ms	
	Averages	1	
	Concatenations	1	
	Filter	Dynamic Field Corr., Prescan Normalize	
	Coil elements	HEA;HEP	
-Contrast		, , , , , , , , , , , , , , , , , , ,	
	MTC	Off	
	Magn. preparation	None	
	Fat suppr.	Fat sat.	
	Fat sat. mode	Weak	
	Averaging mode	Long term	
	Measurements	1	
	Delay in TR	0 ms	
	Reconstruction	Magnitude	
	Multiple series	Off	

Resolution		
]	Base resolution	128
]	Phase resolution	100 %
]	Phase partial Fourier	6/8
]	nterpolation	Off
]	PAT mode	GRAPPA
1	Accel. factor PE	2
]	Ref. lines PE	38
]	Reference scan mode	Separate
]	Distortion Corr.	Off
I	Matrix Coil Mode	Auto (Triple)
]	Prescan Normalize	On
I	Normalize	Off
]	Raw filter	Off
]	Elliptical filter	Off
]	Dynamic Field Corr.	On

Geometry	
Nr. of slice groups	1
Slices	60
Dist. factor	0 %
Position	Isocenter
Phase enc. dir.	P >> A
Phase oversampling	0 %
Multi-slice mode	Interleaved
Series	Interleaved
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	Fat sat.
Special sat.	None
Fat sat. mode	Weak
Special sat.	None
Table position	P

-System-		
System	Body	Off
	NE2	Off
	HEP	On
	HEA	On
	SP4	Off
	SP2	Off
	SP8	Off
	SP6	Off
	SP3	Off
	SP1	Off
	SP7	Off
	SP5	Off
	Position mode	L-P-H
	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
	AutoAlign	
	Coil Select Mode	On - AutoCoilSelect
	Shim mode	Standard
	Adjust with body coil	Off
	Confirm freq. adjustment	Off
	Assume Dominant Fat	Off
	Assume Silicone	Off
	Adjustment Tolerance	Auto
	? Ref. amplitude 1H	0.000 V
	Position	Isocenter
	Rotation	-180.00 deg
	R >> L	307 mm
	A >> P	307 mm
	F >> H	144 mm
	Frequency 1H	123.225677 MHz
	Correction factor	1
	AddCSaCSatNS 1H	160.725 V
	Gain	High
	Table position	0 mm
	Matrix Coil Mode	Auto (Triple)
	Img. Scale. Cor.	1.000

-Physio			
•	1st Signal/Mode	None	
	Magn. preparation	None	
	Resp. control	Off	
Inline			
	Distortion correction	Off	
Sequence			
	Introduction	On	
	Averaging mode	Long term	
	Multi-slice mode	Interleaved	
	Bandwidth	1502 Hz/Px	
	Optimization	None	
	Free echo spacing	Off	
	Echo spacing	0.73 ms	
	EPI factor	128	
	RF pulse type	Low SAR	
	Gradient mode	Fast	
	TX/RX delta frequency	0 Hz	
	TX Nucleus	None	
	TX delta frequency	0 Hz	
	Coil elements	HEA;HEP	
	Acquisition duration	0 ms	
BOLD-			
	Delay in TR	0 ms	
	Diffusion mode	MDDW	
	Diff. weightings	2	
	b-value 1	0 s/mm²	
	Diff. weighted images	On	
	Trace weighted images	On	
	ADC maps	On	
	FA maps	On	
	Mosaic	On	
	Tensor	On	
	Distortion Corr.	Off	
	b-Value >=	0 s/mm²	
	Exponential ADC Maps	Off	
	Invert Gray Scale	Off	
	Calculated Image	Off	

\\USER\head\research protocol\f MRI\ep2d_diff_mddw_6_rev_A>>P_p2 TA:2:32 PAT:2 Voxel size:2.4×2.4×2.4 mm Rel. SNR:1.00 :epse

Properties—			
1	Prio Recon	Off	
	Load to viewer	On	
	Inline movie	Off	
	Auto store images	On	
	Load to stamp segments	Off	
	Load images to graphic segments	Off	
	Auto open inline display	Off	
	Wait for user to start	Off	
	Start measurements	single	
Routine			
	Nr. of slice groups	1	
	Slices	60	
	Dist. factor	0 %	
	Position	Isocenter	
	Orientation	Transversal	
	Phase enc. dir.	A >> P	
	AutoAlign		
	Phase oversampling	0 %	
	FoV read	307 mm	
	FoV phase	100.0 %	
	Slice thickness	2.4 mm	
	TR	15000 ms	
	TE	100.0 ms	
	Averages	1	
	Concatenations	1	
	Filter	Prescan Normalize	
	Coil elements	HEA;HEP	
Contrast—			
	MTC	Off	
	Magn. preparation	None	
	Fat suppr.	Fat sat.	
	Fat sat. mode	Weak	
	Averaging mode	Long term	
	Measurements	1	
	Delay in TR	0 ms	
	Reconstruction	Magnitude	
	Multiple series	Off	

Resolution			
Base	eresolution	128	
Phas	se resolution	100 %	
Phas	se partial Fourier	6/8	
Inte	rpolation	Off	
PAT	mode	GRAPPA	
Acc	el. factor PE	2	
Ref.	lines PE	38	
Refe	erence scan mode	Separate	
Dist	ortion Corr.	Off	
Mat	rix Coil Mode	Auto (Triple)	
Pres	can Normalize	On	
Nor	malize	Off	
Raw	filter	Off	
Ellip	otical filter	Off	
Dyn	amic Field Corr.	Off	

Geometry—	
Nr. of slice groups	1
Slices	60
Dist. factor	0 %
Position	Isocenter
Phase enc. dir.	A >> P
Phase oversampling	0 %
Multi-slice mode	Interleaved
Series	Interleaved
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	Fat sat.
Special sat.	None
Fat sat. mode	Weak
Special sat.	None
Table position	P

System—		
System	Body	Off
	NE2	Off
	HEP	On
	HEA	On
	SP4	Off
	SP2	Off
	SP8	Off
	SP6	Off
	SP3	Off
	SP1	Off
	SP7	Off
	SP5	Off
	Position mode	L-P-H
	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
	AutoAlign	
	Coil Select Mode	On - AutoCoilSelect
	Shim mode	Standard
	Adjust with body coil	Off
	Confirm freq. adjustment	Off
	Assume Dominant Fat	Off
	Assume Silicone	Off
	Adjustment Tolerance	Auto
	? Ref. amplitude 1H	0.000 V
	Position	Isocenter
	Rotation	0.00 deg
	R >> L	307 mm
	A >> P	307 mm
	F>> H	144 mm
	Frequency 1H	123.225677 MHz
	Correction factor	1
	AddCSaCSatNS 1H	160.725 V
	Gain	High
	Table position	0 mm
	Matrix Coil Mode	Auto (Triple)
	Img. Scale. Cor.	1.000

-Physio			
	1st Signal/Mode	None	
	Magn. preparation	None	
	Resp. control	Off	
Inline			
	Distortion correction	Off	
Sequence			
	Introduction	On	
	Averaging mode	Long term	
	Multi-slice mode	Interleaved	
	Bandwidth	1502 Hz/Px	
	Optimization	None	
	Free echo spacing	Off	
	Echo spacing	0.73 ms	
	EPI factor	128	
	RF pulse type	Low SAR	
	Gradient mode	Fast	
	TX/RX delta frequency	$0\mathrm{Hz}$	
	TX Nucleus	None	
	TX delta frequency	$0~\mathrm{Hz}$	
	Coil elements	HEA;HEP	
	Acquisition duration	0 ms	
BOLD	•		
	Delay in TR	0 ms	
	Diffusion mode	MDDW	
	Diff. weightings	2	
	b-value 1	0 s/mm²	
	Diff. weighted images	On	
	Trace weighted images	On	
	ADC maps	On	
	FA maps	On	
	Mosaic	On	
	Tensor	On	
	Distortion Corr.	Off	
	b-Value >=	0 s/mm²	
	Exponential ADC Maps	Off	
	Invert Gray Scale	Off	
	Calculated Image	Off	

\\USER\head\research protocol\f MRI\gre_field_mapping TA:1:09 Voxel size:4.0×4.0×4.0 mm Rel. SNR:1.00 :fm_r

Properties—			
	Prio Recon	Off	
	Load to viewer	On	
	Inline movie	Off	
	Auto store images	On	
	Load to stamp segments	Off	
	Load images to graphic segments	Off	
	Auto open inline display	Off	
	Wait for user to start	Off	
	Start measurements	single	
Routine			
	Nr. of slice groups	1	
	Slices	36	
	Dist. factor	0%	
	Position	R4.0 P31.8 H37.4 mm	
	Orientation	T > S2.6	
	Phase enc. dir.	R >> L	
	AutoAlign		
	Phase oversampling	0~%	
	FoV read	256 mm	
	FoV phase	100.0 %	
	Slice thickness	4.0 mm	
	TR	520.0 ms	
	TE 1	4.92 ms	
	Averages	1	
	Concatenations	1	
	Filter	None	
	Coil elements	HEA;HEP	
Contrast			
	MTC	Off	
	Flip angle	60 deg	
	Fat suppr.	None	
	Averaging mode	Long term	
	Measurements	1	
	Reconstruction	Phase	
	Multiple series	Off	

¬Resolution¬			
	Base resolution	64	
	Phase resolution	100 %	
	Phase partial Fourier	Off	
	Interpolation	Off	
	Image Filter	Off	
	Distortion Corr.	Off	
	Matrix Coil Mode	Auto (Triple)	
	Prescan Normalize	Off	
	Normalize	Off	
	B1 filter	Off	
	Raw filter	Off	
	Elliptical filter	Off	

Geometry—			
	Nr. of slice groups	1	
	Slices	36	
	Dist. factor	0 %	
	Position	R4.0 P31.8 H37.4 mm	
	Phase enc. dir.	R >> L	
	Phase oversampling	0 %	
	Multi-slice mode	Interleaved	
	Series	Interleaved	
	Nr. of sat. regions	0	
	Position mode	L-P-H	
	Fat suppr.	None	
	Special sat.	None	
	Special sat.	None	
	Table position	P	

¬System——			
	Body	Off	
	NE2	Off	
	HEP	On	
	HEA	On	
	SP4	Off	
	SP2	Off	
	SP8	Off	
	SP6	Off	
	SP3	Off	
	SP1	Off	
	SP7	Off	
	SP5	Off	
	Position mode	L-P-H	
	Positioning mode	REF	
	Table position	Н	
	Table position	0 mm	
	MSMA	S - C - T	
	Sagittal	R >> L	
	Coronal	A >> P	
	Transversal	F >> H	
	Save uncombined	Off	
	Coil Combine Mode	Sum of Squares	
	AutoAlign		
	Coil Select Mode	On - AutoCoilSelect	
	Shim mode	Standard	
	Adjust with body coil	Off	
	Confirm freq. adjustment	Off	
	Assume Dominant Fat	Off	
	Assume Silicone	Off	
	Adjustment Tolerance	Auto	
	? Ref. amplitude 1H	0.000 V	
	Position	R4.0 P31.8 H37.4 mm	
	Rotation	95.10 deg	
	A >> P	256 mm	
	R >> L	256 mm	
	F >> H	144 mm	
	Frequency 1H	123.225677 MHz	
	Correction factor	1	
	01GreFCE 1H	310.136 V	
	Gain	High	
	Table position	0 mm	
	Matrix Coil Mode	Auto (Triple)	
	Img. Scale. Cor.	1.000	
Physio			

-Inline		
	Distortion correction	Off
Sequence-		
	Introduction	On
	Dimension	2D
	Averaging mode	Long term
	Multi-slice mode	Interleaved
	Asymmetric echo	Off
	Contrasts	2
	Bandwidth	310 Hz/Px
	Flow comp.	Yes
	RF pulse type	Normal
	Gradient mode	Fast
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	HEA;HEP
	Acquisition duration	0 ms
	Mode	Off
BOLD		
	Distortion Corr.	Off
	Contrasts	2
	·	·

\\USER\head\research protocol\f MRI\t2_tirm_tra_dark-fluid_fast_p2 TA:2:26 PAT:Off Voxel size:0.9×0.9×4.0 mm Rel. SNR:1.00 :tir

-Properties		\neg
Prio Recon	Off	
Load to viewer	On	
Inline movie	Off	
Auto store images	On	
Load to stamp segments	Off	
Load images to graphic segments	Off	
Auto open inline display	Off	
Wait for user to start	Off	
Start measurements	single	

Routine—			
	Nr. of slice groups	1	
	Slices	36	
	Dist. factor	0 %	
	Position	Isocenter	
	Orientation	Transversal	
	Phase enc. dir.	R >> L	
	AutoAlign		
	Phase oversampling	0 %	
	FoV read	240 mm	
	FoV phase	100.0 %	
	Slice thickness	4.0 mm	
	TR	8000.0 ms	
	TE	119.0 ms	
	Averages	1	
	Concatenations	2	
	Filter	Prescan Normalize, Elliptical filter	
	Coil elements	HEA;HEP	

Contrast—	
TD	0.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	2000 ms
Freeze suppressed tissue	On
Flip angle	180 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Water suppr.	None
Restore magn.	Off
Averaging mode	Long term
Measurements	1
Reconstruction	Magnitude
Multiple series	Each measurement

Base resolution	256	
Phase resolution	50 %	
Phase partial Fourier	Off	
Trajectory	Cartesian	
Interpolation	Off	
PAT mode	None	
Image Filter	Off	
Distortion Corr.	Off	
TD	0.0 ms	
Matrix Coil Mode	Auto (Triple)	
Unfiltered images	Off	
Prescan Normalize	On	
Normalize	Off	
B1 filter	Off	
Raw filter	Off	
Elliptical filter	On	
Mode	Inplane	
	Phase resolution Phase partial Fourier Trajectory Interpolation PAT mode Image Filter Distortion Corr. TD Matrix Coil Mode Unfiltered images Prescan Normalize Normalize B1 filter Raw filter Elliptical filter	Phase resolution 50 % Phase partial Fourier Off Trajectory Cartesian Interpolation Off PAT mode None Image Filter Off Distortion Corr. Off TD 0.0 ms Matrix Coil Mode Auto (Triple) Unfiltered images Off Prescan Normalize On Normalize Off B1 filter Off Raw filter Off Elliptical filter On

-Geometry-		
	Nr. of slice groups	1
	Slices	36
	Dist. factor	0 %
	Position	Isocenter
	Phase enc. dir.	R >> L
	Phase oversampling	0 %
	Multi-slice mode	Interleaved
	Series	Interleaved
	Nr. of sat. regions	0
	Position mode	L-P-H
	Fat suppr.	Fat sat.
	Water suppr.	None
	Special sat.	None
	Fat sat. mode	Strong
	Special sat.	None
	Table position	P
	Restore magn.	Off

- System		
-System-	Body	Off
	NE2	Off
	HEP	On
	HEA	On
	SP4	Off
	SP2	Off
	SP8	Off
	SP6	Off
	SP3	Off
	SP1	Off
	SP7	Off
	SP5	Off
	Position mode	L-P-H
	Positioning mode	FIX
	Table position	Н
	Table position	0 mm
	MSMA	S - C - T
	Sagittal	R >> L
	Coronal	A >> P
	Transversal	F >> H
	Save uncombined	Off
	Coil Combine Mode	Adaptive Combine
	AutoAlign	
	Coil Select Mode	On - AutoCoilSelect
	Shim mode	Standard
	Adjust with body coil	Off
	Confirm freq. adjustment	Off
	Assume Dominant Fat	Off
	Assume Silicone	Off
	Adjustment Tolerance	Auto
	? Ref. amplitude 1H	0.000 V
	Position	Isocenter
	Rotation	90.00 deg
	A >> P	240 mm
	R >> L	240 mm
	F >> H	144 mm
	Frequency 1H	123.225677 MHz
	Correction factor	1
	Excit 1H	401.662 V
	Gain	High
	Table position	0 mm
	Matrix Coil Mode	Auto (Triple)
	Img. Scale. Cor.	1.000

Physio——			
	1st Signal/Mode	None	
	Magn. preparation	Slice-sel. IR	
	TI	2000 ms	
	Dark blood	Off	
	Trajectory	Cartesian	
	Resp. control	Off	
-Inline			
	Distortion correction	Off	
Sequence—			
	Introduction	On	
	Dimension	2D	
	Compensate T2 decay	Off	
	Averaging mode	Long term	
	Multi-slice mode	Interleaved	
	Reduce Motion Sens.	On	
	Contrasts	1	
	Bandwidth	287 Hz/Px	
	Flow comp.	No	
	Allowed delay	60 s	
	Echo spacing	8.52 ms	
	Define	Turbo factor	
	Turbo factor	16	
	Echo trains per slice	8	
	RF pulse type	Normal	
	Gradient mode	Fast	
	Hyperecho	Off	
	TX/RX delta frequency	0 Hz	
	TX Nucleus	None	
	TX delta frequency	0 Hz	
	Coil elements	HEA;HEP	
	Acquisition duration	0 ms	
	Mode	Off	
BOLD-			
	Subtract	Off	
	StdDev	Off	
	MIP-Sag	Off	
	MIP-Cor	Off	
	MIP-Tra	Off	
	MIP-Time	Off	
	Save original images	On	
	Distortion Corr.	Off	
	Contrasts	1	
	Save original images	On	

\\USER\head\research protocol\f MRI\t2_tse_tra_p2 TA:1:20 PAT:2 Voxel size:0.8×0.8×4.0 mm Rel. SNR:1.00 :tse

¬Properties—			
1	Prio Recon	Off	
	Load to viewer	On	
	Inline movie	Off	
	Auto store images	On	
	Load to stamp segments	Off	
	Load images to graphic se	gments Off	
	Auto open inline display	Off	
	Wait for user to start	Off	
	Start measurements	single	
Routine			
	Nr. of slice groups	1	
	Slices	36	
	Dist. factor	0 %	
	Position	Isocenter	
	Orientation	Transversal	
	Phase enc. dir.	R >> L	
	AutoAlign		
	Phase oversampling	0 %	
	FoV read	240 mm	
	FoV phase	75.0 %	
	Slice thickness	4.0 mm	
	TR	4920.0 ms	
	TE	61.0 ms	
	Averages	1	
	Concatenations	2	
	Filter	Prescan Normalize, Elliptical filter	
	Coil elements	HEA;HEP	
-Contrast			
	TD	0.0 ms	
	MTC	Off	
	Magn. preparation	None	
	Flip angle	90 deg	
	Fat suppr.	None	
	Water suppr.	None	
	Restore magn.	Off	
	Averaging mode	Long term	
	Measurements	1	
	Reconstruction	Magnitude	
	Multiple series	Each measurement	

Resolution-			
210001011	Base resolution	320	
	Phase resolution	100 %	
	Phase partial Fourier	Off	
	Trajectory	Cartesian	
	Interpolation	Off	
	PAT mode	GRAPPA	
	Accel. factor PE	2	
	Ref. lines PE	26	
	Reference scan mode	Integrated	
	Image Filter	Off	
	Distortion Corr.	Off	
	TD	0.0 ms	
	Matrix Coil Mode	Auto (Triple)	
	Unfiltered images	Off	
	Prescan Normalize	On	
	Normalize	Off	
	B1 filter	Off	
	Raw filter	Off	
	Elliptical filter	On	
	Mode	Inplane	
Geometry—			
	Nr. of slice groups	1	
	Slices	36	
	Dist. factor	0 %	
	Position	Isocenter	
	Phase enc. dir.	R >> L	
	Phase oversampling	0 %	
	Multi-slice mode	Interleaved	
	Series	Interleaved	
	Nr. of sat. regions	0	
	Position mode	L-P-H	
	Fat suppr.	None	
	Water suppr.	None	
	Special sat.	None	
	Special sat.	None	
	T-1-1	n	

Table position

Restore magn.

P Off

¬System—		
System	Body	Off
	NE2	Off
	HEP	On
	HEA	On
	SP4	Off
	SP2	Off
	SP8	Off
	SP6	Off
	SP3	Off
	SP1	Off
	SP7	Off
	SP5	Off
	Position mode	L-P-H
	Positioning mode	FIX
	Table position	Н
	Table position	0 mm
	MSMA	S - C - T
	Sagittal	R >> L
	Coronal	A >> P
	Transversal	F >> H
	Save uncombined	Off
	Coil Combine Mode	Adaptive Combine
	AutoAlign	
	Coil Select Mode	On - AutoCoilSelect
	Shim mode	Tune up
	Adjust with body coil	Off
	Confirm freq. adjustment	Off
	Assume Dominant Fat	Off
	Assume Silicone	Off
	Adjustment Tolerance	Auto
	? Ref. amplitude 1H	0.000 V
	Position	Isocenter
	Rotation	0.00 deg
	R >> L	350 mm
	A >> P	263 mm
	F >> H	350 mm
	Frequency 1H	123.225677 MHz
	Correction factor	1
	Excit 1H	301.246 V
	Gain	High
	Table position	0 mm
	Matrix Coil Mode	Auto (Triple)
	Img. Scale. Cor.	1.000

-Physio			
	1st Signal/Mode	None	
	Magn. preparation	None	
	Dark blood	Off	
	Trajectory	Cartesian	
	Resp. control	Off	
-Inline			
	Distortion correction	Off	
-Sequence-			
	Introduction	On	
	Dimension	2D	
	Compensate T2 decay	Off	
	Averaging mode	Long term	
	Multi-slice mode	Interleaved	
	Reduce Motion Sens.	On	
	Contrasts	1	
	Bandwidth	256 Hz/Px	
	Flow comp.	No	
	Allowed delay	60 s	
	Echo spacing	12.2 ms	
	Define	Turbo factor	
	Turbo factor	19	
	Echo trains per slice	7	
	RF pulse type	Normal	
	Gradient mode	Fast	
	Hyperecho	On	
	TX/RX delta frequency	0 Hz	
	TX Nucleus	None	
	TX delta frequency	0 Hz	
	Coil elements	HEA;HEP	
	Acquisition duration	0 ms	
	Mode	Off	
-BOLD-			
	Subtract	Off	
	StdDev	Off	
	MIP-Sag	Off	
	MIP-Cor	Off	
	MIP-Tra	Off	
	MIP-Time	Off	
	Save original images	On	
	Distortion Corr.	Off	
	Contrasts	1	
	Save original images	On	
	Save original images	Oii	

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