\\USER\MRRC Research\SiteProtocols\Pelphrey_Sequences\SAG T1 3D MPRAGE32ch_3nex Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00

SIEMENS: tfl

PAT: 2

Properties	1A. 6.34	PAT. 2 VOXELSIZE. T.UXT	1.0x1.0 IIIII Hel. Sinh. 1.00	SIEWENS. III
Properties Properties Processor Normalize Processor Normalize On			Unfiltered images	Off
Prio Necon Off Before measurement After measurement After measurement After measurement After measurement After measurement After measurement Bit filler Off Flav filler Off Eliptical filter	Properties			_
Before measurement After measurement Load to viewer On Inline move Or Inline mov		Off		_
After measurement Load to viewer in line movie und in line movie of in line movie of in line movie of in line movie of the line for in lin	Before measurement			
Load to stamp segments On	After measurement		_ :	_
Inline move	Load to viewer	On		
Load to stamp segments Orf Series to graphic segments Off Series to graphic segments Orf Series	Inline movie	Off	1 .	Oil
Load to stamp segments	Auto store images	On		
Load images to graphic segments Auto open inline display System				Sequential
Auto open inline display Off System		Off	Series	Ascending
Start measurement without further preparation Wait for user to start Off HEP On On HEA On Start measurements Single	segments			
further preparation Walf for user to start Single Single SP4 Off SP4 Off SP4 Off SP2 Off SP8 Off	Auto open inline display	Off	System	
further preparation Wait for user to start Single SP4	Start measurement without	On	Body	Off
Wat for user to start Off Start measurements Single SP4 Off Start measurements Single SP4 Off SP2 Off SP8 Off	further preparation			
Space	Wait for user to start	Off	HEA	On
Slab group 1	Start measurements	single	SP4	
Slab group 1 Slab SP6	Douting		SP2	Off
Siab group			SP8	Off
Sitas 1				Off
Dist. factor Size				
Position				
Orientation Sagitatian A ≫ P Rotation 0.00 deg Positioning mode FIX Phase oversampling 0.0 % Table position H Slice oversampling 0.0 % Table position 0 mm Slice sper slab 176 MSMA S - C - T FoV phase 100.0 % Sagittal L ≫ R FoV phase 100.0 % Coronal P >> A TS 1230 ms Coronal P >> A TE 1.73 ms Coroliments Orif Corolime Mode Adaptive Combine Averages 3 Concatenations T Tune up Filler Prescan Normalize Auto Coil Scelect Default Coll elements HEA;HEP Shim mode Tune up Contrast Tune up Auto Coil Scelect Default Contrast Prescan Normalize Auto Coil Combine Mode Auto Coil Combine Contrast Prescan Normalize Auto Coil Combine Auto Coil Combine Contrast Prescan Normalize <				_
Phase end of the position o				
Phase oversampling				
Slice oversampling				
Silices per slab				
FoV read				
FoV phase	•			
Slice thickness 1.00 mm Transversal F⇒ H			•	
TR 1230 ms Save uncombined Off TE 1.73 ms Coil Combine Mode Adaptive Combine Averages 3 Auto Coil Select Default Concatenations 1 Shim mode Tune up Coll elements HEA;HEP Adjust with body coil On Contrast Off Off On Magn. preparation Non-sel. IR Off On TI 624 ms Adjust with body coil On Filip angle 9 deg Adjust ment Tolerance Auto Fat suppr. None Position Isocenter Averaging mode Short term Position Isocenter Averaging mode Short term Rotation 0.00 deg Resolution Magnitude R >> L 350 mm Measurements 1 F >> H 350 mm Resolution 256 Dark blood Off Base resolution 256 Dark blood Off Phase partial Fourier Off <td></td> <td></td> <td></td> <td></td>				
TE				
Averages 3 Auto Coil Select Default Concatenations 1 Shim mode Tune up Filter Prescan Normalize Shim mode Tune up Coil elements HEA;HEP Adjust with body coil On Contrast Non-sel. IR Assume Silicone Off Magn. preparation Non-sel. IR 7 Ref. amplitude 1H 0,000 V TI 624 ms Adjustment Tolerance Auto Flip angle 9 deg Adjustment Tolerance Auto Fat suppr. None Position Isocenter Water suppr. None Orientation Transversal Averaging mode Short term Rotation 0.00 deg Averaging mode Short term Rotation 0.00 deg Reconstruction Magnitude A >> P 263 mm Measurements 1 F >> L 350 mm Resolution F >> P 263 mm Menature Phase resolution 70 % Dark blood Off				
Concatenations Filter				•
Filter	•	3		Default
Adjust with body coil		1		Tuno un
Contrast Confirm freq. adjustment Off Contrast Assume Silicone Off Magn. preparation Non-sel. IR ? Ref. amplitude 1H 0.000 V TI 624 ms Adjust wolume Auto Filip angle 9 deg Adjust volume Position Isocenter Fat suppr. None Position Isocenter Water suppr. None Orientation Transversal Averaging mode Short term Rotation 0.00 deg Reconstruction Magnitude A >> P 263 mm Measurements 1 A >> P 263 mm Mesolution Each measurement Physio 1st Signal/Mode None Phase resolution 256 1st Signal/Mode None Phase partial Fourier Off Resp. control Off Slice partial Fourier Off Resp. control Off Interpolation Off Std-Dev-Sag Off PAT mode GRAPPA Std-Dev-Sag Off <				
Contrast Assume Silicone Off Magn. preparation Non-sel. IR ? Ref. amplitude 1H 0.000 V Flip angle 9 deg Adjustment Tolerance Auto Flip angle 9 deg Adjustment Tolerance Auto Fat suppr. None Position Isocenter Water suppr. None Position Transversal Averaging mode Short term Rotation 0.00 deg Reconstruction Magnitude R > L 350 mm Measurements 1 A > P 263 mm Multiple series Each measurement F >> H 350 mm Resolution 256 Thysic None Phase resolution 100 % Dark blood Off Slice resolution 70 % Pace secontrol Off Phase partial Fourier Off Resp. control Off Slice partial Fourier Off Std-Dev-Sag Off PAT mode GRAPPA Std-Dev-Cor Off Accel. factor PE <td>Coil elements</td> <td>HEA;HEP</td> <td></td> <td></td>	Coil elements	HEA;HEP		
Magn. preparation Non-sel. IR TI 624 ms Flip angle 9 deg Fat suppr. None Water suppr. None Averaging mode Short term Reconstruction Magnitude Measurements 1 Multiple series Each measurement Resolution 100 % Phase resolution 100 % Slice resolution 70 % Phase partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Matrix Coil Mode Auto (Triple) Matrix Coil Mode Auto (Triple) Reference scan mode Integrated Image Filter Off	Contrast			
TI 624 ms Adjustment Tolerance Auto Flip angle 9 deg Fat suppr. None Position Isocenter Water suppr. None Orientation Transversal Averaging mode Short term Reconstruction Magnitude Resonstruction Magnitude Resolution Measurements 1 Formation Flysio Base resolution 256 Phase resolution 100 % Slice resolution 70 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off PAT mode Accel. factor PE 2 Recilines PE 24 Accel. factor SD 1 Matrix Coil Mode Reference scan mode Integrated Integrated Adjustment Tolerance Auto Adjust wolume Position Isocenter Orientation Isocenter Adjust wolume Position Isocenter Adjust volume Asposition Isocenter Auto O.00 deg R >> L 350 mm A >> P 263 mm F >> H 350 mm Physio Ist Signal/Mode None Dark blood Off Resp. control Off Inline I		Non-sel IR		
Flip angle			·	*****
Fat suppr. None Position Isocenter Water suppr. None Orientation Transversal Averaging mode Reconstruction Short term Rotation 0.00 deg Resconstruction Magnitude A >> P 256 mm Multiple series Each measurement F >> H 350 mm Resolution Physio Physio Base resolution 100 % Dark blood Off Slice resolution 70 % Resp. control Off Phase partial Fourier Off Resp. control Off Slice partial Fourier Off Inline Interpolation Off Subtract Off PAT mode GRAPPA Std-Dev-Sag Off Accel. factor PE 2 Std-Dev-Cor Off Accel. factor SD 1 Std-Dev-Time Off Matrix Coil Mode Auto (Triple) MIP-Sag Off MIP-Tra Off MIP-Tra Off				Auto
Water suppr. None Orientation Transversal Averaging mode Short term Rotation 0.00 deg Reconstruction Magnitude R >> L 350 mm Measurements 1 A >> P 263 mm Multiple series Each measurement F >> H 350 mm Physio Base resolution 256 Physio None Phase resolution 100 % Dark blood Off Slice resolution 70 % Resp. control Off Phase partial Fourier Off Inline Interpolation Off Subtract Off PAT mode GRAPPA Std-Dev-Sag Off Accel. factor PE 2 Std-Dev-Cor Off Accel. factor 3D 1 Std-Dev-Time Off Matrix Coil Mode Auto (Triple) MIP-Sag Off MIP-Tra Off MIP-Tra Off Image Filter Off MIP-Time Off				leocenter
Averaging mode Short term Rotation 0.00 deg Reconstruction Magnitude R >> L 350 mm Measurements 1 A >> P 263 mm Multiple series Each measurement F >> H 350 mm Resolution 256 Physio 1st Signal/Mode None Phase resolution 100 % Dark blood Off Slice resolution 70 % Resp. control Off Phase partial Fourier Off Inline Interpolation Off Subtract Off PAT mode GRAPPA Std-Dev-Sag Off Accel. factor PE 2 Std-Dev-Cor Off Ref. lines PE 24 Std-Dev-Tra Off Accel. factor 3D 1 Std-Dev-Time Off Matrix Coil Mode Auto (Triple) MIP-Cor Off Merence scan mode Integrated MIP-Tra Off				
Reconstruction Magnitude A >> P 263 mm Measurements 1 Fourier Off Slice partial Fourier Off Accel. factor PE 2 Ref. lines PE Accel. factor 3D Accel. factor 2D Accel. factor 2D Accel. factor 2D Accel. factor 3D Accel. factor 2D Accel. factor 3D Accel. factor 2D Accel. factor 3D				
Heconstruction Magnitude A >> P 263 mm Measurements 1 Physio Resolution 256 Physio Phase resolution 100 % Dark blood Off Slice resolution 70 % Resp. control Off Phase partial Fourier Off Inline Interpolation Off Subtract Off PAT mode GRAPPA Std-Dev-Sag Off Accel. factor PE 2 Std-Dev-Cor Off Ref. lines PE 24 Std-Dev-Tra Off Accel. factor 3D 1 Std-Dev-Time Off Matrix Coil Mode Auto (Triple) MIP-Sag Off Meference scan mode Integrated MIP-Cor Off Image Filter Off MIP-Time Off				•
Measurements Multiple series Each measurement F >> H 350 mm		Magnitude		
Resolution Base resolution 256 Phase resolution 100 % Slice resolution 70 % Phase partial Fourier Off Inline Interpolation Off PAT mode Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D Matrix Coil Mode Auto (Triple) Resolution Off Image Filter Physio 1st Signal/Mode None 1st Signal/None 1st Signal/None 1st Signal/None 1st Signal/None 1st		1		
Base resolution 256 Phase resolution 100 % Slice resolution 70 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Matrix Coil Mode Auto (Triple) Reference scan mode Integrated Ist Signal/Mode None 1st Signal/Mode None Dark blood Off Resp. control Off Resp. control Off Subtract Off Std-Dev-Sag Off Std-Dev-Sag Off Std-Dev-Tra Off MIP-Sag Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off MIP-Tra Off	Multiple series	Each measurement		000 111111
Base resolution 256 Phase resolution 100 % Slice resolution 70 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Matrix Coil Mode Auto (Triple) Reference scan mode Integrated Interpolation Off Stis Signal/Mode None Dark blood Off Resp. control Off Resp. control Off Subtract Off Subtract Off Std-Dev-Sag Off Std-Dev-Cor Off Std-Dev-Tra Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off MIP-Tra Off MIP-Tra Off	Resolution			
Phase resolution 100 % Dark blood Off Slice resolution 70 % Resp. control Off Slice partial Fourier Off Inline Interpolation Off PAT mode GRAPPA Std-Dev-Sag Off Accel. factor PE 2 Std-Dev-Cor Off Ref. lines PE 24 Std-Dev-Tra Off Accel. factor 3D 1 Std-Dev-Time Off Matrix Coil Mode Auto (Triple) Reference scan mode Integrated Image Filter Off Dark blood Off Resp. control Off Resp. control Off Resp. control Off Subtract Off Std-Dev-Sag Off Std-Dev-Tra Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off		256	—— 1st Signal/Mode	None
Slice resolution 70 % Phase partial Fourier Off Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Matrix Coil Mode Auto (Triple) Reference scan mode Image Filter Slice partial Fourier Off Resp. control Off Resp. control Off Resp. control Off Resp. control Off Resp. control Off Resp. control Off Resp. control Off Resp. control Off Subtract Off Std-Dev-Sag Off Std-Dev-Cor Off Std-Dev-Tra Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off MIP-Time Off			Dark blood	Off
Phase partial Fourier Off Inline Interpolation Off PAT mode GRAPPA Std-Dev-Sag Off Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Matrix Coil Mode Auto (Triple) Reference scan mode Integrated Inline Subtract Off Std-Dev-Sag Off Std-Dev-Tag Off Std-Dev-Trag Off MIP-Cor Off MIP-Cor Off MIP-Trag Off MIP-Trag Off MIP-Trag Off MIP-Trag Off MIP-Time Off MIP-Time Off MIP-Time Off MIP-Time Off MIP-Time			Dark 01000	OII
Slice partial Fourier Off Interpolation Off PAT mode GRAPPA Std-Dev-Sag Off Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Matrix Coil Mode Auto (Triple) Reference scan mode Integrated Inline Subtract Off Std-Dev-Sag Off Std-Dev-Cor Off Std-Dev-Tra Off MIP-Sag Off MIP-Cor Off MIP-Cor Off MIP-Tra Off MIP-Tra Off MIP-Tra Off			Resp. control	Off
Interpolation Off PAT mode GRAPPA Std-Dev-Sag Off Accel. factor PE 2 Std-Dev-Cor Off Ref. lines PE 24 Std-Dev-Tra Off Accel. factor 3D 1 Std-Dev-Time Off Matrix Coil Mode Auto (Triple) MIP-Sag Off Reference scan mode Integrated MIP-Cor Off Image Filter Off MIP-Tra Off			1	
PAT mode GRAPPA Std-Dev-Sag Off Accel. factor PE 2 Std-Dev-Cor Off Ref. lines PE 24 Std-Dev-Tra Off Accel. factor 3D 1 Std-Dev-Time Off Matrix Coil Mode Auto (Triple) MIP-Sag Off Reference scan mode Integrated MIP-Cor Off Image Filter Off MIP-Tra Off				0"
Accel. factor PE 2 Ref. lines PE 24 Accel. factor 3D 1 Matrix Coil Mode Auto (Triple) Reference scan mode Integrated Image Filter Off Std-Dev-Cor Off Std-Dev-Tra Off MIP-Sag Off MIP-Cor Off MIP-Tra Off MIP-Tra Off MIP-Tra Off		OII		
Ref. lines PE 24 Accel. factor 3D 1 Matrix Coil Mode Auto (Triple) Reference scan mode Integrated Image Filter MIP-Tra Off	PAT mode	GRAPPA		
Accel. factor 3D 1 Std-Dev-Time Off Matrix Coil Mode Auto (Triple) MIP-Sag Off Reference scan mode Integrated MIP-Cor Off Image Filter Off MIP-Tra Off	Accel. factor PE	2		
Accel. factor 3D 1 Std-Dev-Time Off Matrix Coil Mode Auto (Triple) MIP-Sag Off Reference scan mode Integrated MIP-Cor Off Image Filter Off MIP-Time Off	Ref. lines PE	24		
Matrix Coil Mode Auto (Triple) MIP-Sag Off Reference scan mode Integrated MIP-Tra Off Image Filter Off MIP-Time Off	Accel. factor 3D	1		
Reference scan mode Integrated MIP-Cor Off MIP-Tra Off MIP-Time Off		Auto (Triple)		
Image Filter Off MIP-Tra Off Off				_
Distortion Corr. Off Save original images On			_	
	Distortion Corr.	ОĦ	Save original images	On

Sequence

•	
Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Allowed
Bandwidth	320 Hz/Px
Flow comp.	No
Echo spacing	5.4 ms
RF pulse type	Normal
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On

\\USER\MRRC Research\SiteProtocols\Pelphrey_Sequences\Sag_3D_short_ipat

TA: 3:25	PAT: 2 Voxel size: 1.0×1.0	×1.0 mm Rel. SNR: 1.00	SIEMENS: tfl
Droportion		Distortion Corr.	Off
Properties	0,4	 Unfiltered images 	Off
Prio Recon	Off	Prescan Normalize	On
Before measurement		Normalize	Off
After measurement	_	B1 filter	Off
Load to viewer	On	Raw filter	Off
Inline movie	Off	Elliptical filter	On
Auto store images	On	Mode	Inplane
Load to stamp segments	Off	Wiode	inplane
Load images to graphic	Off	Geometry	
segments		Multi-slice mode	Single shot
Auto open inline display	Off	Series	Interleaved
Start measurement without	On		
further preparation		System	
Wait for user to start	Off	Body	Off
Start measurements	single	HEP	On
Glart measurements	Sirigio		_
Routine		HEA	On
Slab group 1		Positioning mode	REF
Slabs	1	Table position	H
Dist. factor	50 %	Table position	0 mm
Position	R2.3 A48.7 F5.0	MSMA	S - C - T
Orientation	Sagittal	Sagittal	L>> R
Phase enc. dir.	A >> P		=::::
	0.00 deg	Coronal	P >> A
Rotation		Transversal	F >> H
Phase oversampling	0 %	Save uncombined	Off
Slice oversampling	60.0 %	Coil Combine Mode	Adaptive Combine
Slices per slab	160	Auto Coil Select	Default
FoV read	256 mm	Shim mode	Tune up
FoV phase	100.0 %		Off
Slice thickness	1.00 mm	Adjust with body coil	
TR	1900 ms	Confirm freq. adjustment	Off
TE	2.96 ms	Assume Silicone	Off
Averages	1	? Ref. amplitude 1H	0.000 V
Concatenations	1	Adjustment Tolerance	Auto
Filter	Prescan Normalize, Elliptical	Adjust volume	
	filter	Position	Isocenter
Coil elements	HEA;HEP	Orientation	Transversal
Con diomento	1127,1121	Rotation	0.00 deg
Contrast		R >> L	350 mm
Magn. preparation	Non-sel. IR	_ A >>> P	263 mm
TI	900 ms	F >> H	350 mm
Flip angle	9 deg	I	
Fat suppr.	None	Physio	
Water suppr.	None	1st Signal/Mode	None
		Dark blood	Off
Averaging mode	Long term	Dark blood	Oil
Reconstruction	Magnitude	Resp. control	Off
Measurements	1	'	
Multiple series	Each measurement	Inline	
•		Subtract	Off
Resolution		_ Std-Dev-Sag	Off
Base resolution	256	Std-Dev-Cor	Off
Phase resolution	100 %	Std-Dev-Tra	Off
Slice resolution	50 %	Std-Dev-Time	Off
Phase partial Fourier	6/8	MIP-Sag	Off
Slice partial Fourier	6/8	MIP-Cor	Off
Interpolation	Off	MIP-Tra	Off
			
PAT mode	GRAPPA	MIP-Time	Off
Accel. factor PE	2	Save original images	On
Ref. lines PE	24	Sequence	
Accel. factor 3D	1	Introduction	On
Matrix Coil Mode	Auto (Triple)		3D
Reference scan mode	Integrated	Dimension	
		Elliptical scanning	Off
Image Filter	Off	Asymmetric echo	Allowed
-		Bandwidth	160 Hz/Px

١	Flow comp.	No	
	Echo spacing	7.4 ms	
	RF pulse type	Fast	
	Gradient mode	Fast	
	Excitation	Slab-sel.	
	RF spoiling	On	