

#6

Taller de RM

~~Teórico~~
Práctico



El Mundo Resonancia Magnética

Taller de RM

~~Teórico~~

Práctico



El Mundo Resonancia Magnética

Rompiendo falsas
creencias

Taller de RM

~~Teórico~~

Práctico



El Mundo Resonancia Magnética

Los NSAs, Promedios o
NEX **DAN SEÑAL**



Summary >>

AP (freq)	RL (phase)	FH
250 (230)	190 (182)	mm x 139
mm	mm	mm
Voxel	0.55	x 0.65
mm	mm	x 4
mm		
Matrix	456	x 300
slices		x 28
mm		
Gap	Default 1	

NSA 1

Fat saturation SPIR

Low SAR mode

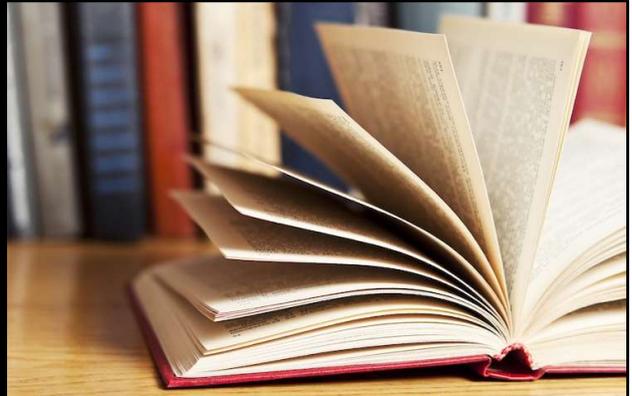
TA: 0.24 PM: ISO PAT: 4 Voxel size: 0.8x0.7x0.8 mm Ref. SNR: 1.00 : II

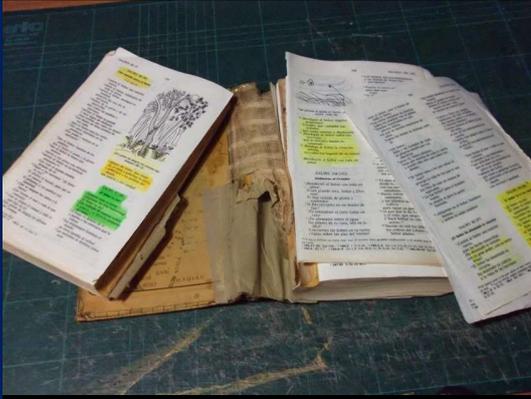
Slab group	FOV read	450	mm
Slabs	FOV phase	82.5	%
Dist. factor	Slice thickness	0.80	mm
Position	TR	2.61	ms
Orientation	TE	1.18	ms
Phase enc. dir	Averages	1	
AutoAlign	Filter	Distortion Corr (DC)	
Phase oversampling	Col elements	HEATHEPNE1,2,5P	
Slice oversampling			
Slices per slab			

Program | Routine | Contrast | Resolution | Geometry | System | Physio | Angio | Sequence

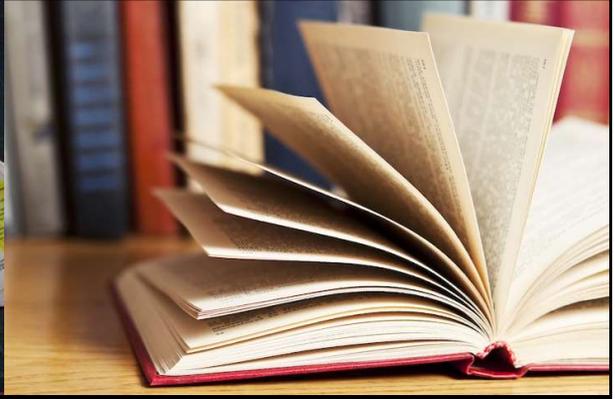
Acquisition Timing

Freq	3.46	Freq DR	SR
Phase	320	Phase Group	Deriv-Res
HFX	1.00	Shim	Auto
Phase FOV	0.30	<input type="checkbox"/> Phase Correct	
Z/ips before		<input checked="" type="checkbox"/> Contrast	
Phase		Acq	15CC
		Appt	MM





X 4



X 1

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El Mundo Resonancia Magnética

Utilizo el parámetro SNR
como referencia de calidad



Recuerda

puedes seguir todo el Taller en:

www.resonancia-magnetica.com

Sección de profesionales





T1W_TSE_COR 04:16

Voxel: 0.40 x 0.43 x 3.00 Cor: 1.00 Rel. SNR: 11 TE: 450

Accept

T1W_TSE_COR 05:01

Voxel: 0.40 x 0.43 x 3.00 Cor: 1.14 Rel. SNR: 11 TE: 531

Accept

Resumen Geometria Contraste Movimiento Dir/ang Postproc Off/ang bobinas Conflictos <<

CDV	D-I (frec)	P-C (fase)	A-P	
	120	x 120	mm x 52	mm
Voxel	0.4	x 0.43	mm x 3	mm
Matriz	300	x 279	x 16	cortes
		Espacio	<input checked="" type="checkbox"/> Predet	0.3 mm
NSA	1			
Saturac. grasa	<input type="checkbox"/> SPIR			



T2W_TSE_COR
04:40

Voxel: 0.53 x 0.61 x 3.00
Cor: 1.00
Rel. SNR: 1.00
TE: 90
TR: 2500

Accept

Resumen	Geometría	Contraste	Movimiento	Dir/áng	Postproc	Ofc/áng	bobinas	Conflictos
ultracorto	no							
fid reduction	default							
Ecos	1							
eco parcial	no							
TE (ms)	definido por el usu...							
áng. incl. (grd)	90							
Control de reenfoque	no							
TR	rango							
mínimo (ms)	2500							
máximo (ms)	8000							
Media adq.	no							
Despl. agua-grasa	máximo							
Shim	predeterminado							
mDIXON	no							
Supresión de grasa	no							
Supresión de agua	no							
MTC	no							
Modo de difusión	no							

T2W_TSE_COR
12:40

Voxel: 0.53 x 0.61 x 3.00
Cor: 1.071
Rel. SNR: 1.071
TE: 90
TR: 6000

Accept

Resumen	Geometría	Contraste	Movimiento	Dir/áng	Postproc	Ofc/áng	bobinas	Conflictos
Ecos	1							
eco parcial	no							
TE (ms)	definido por el usu...							
áng. incl. (grd)	90							
Control de reenfoque	no							
TR	rango							
mínimo (ms)	5000 (2500)							
máximo (ms)	8000							
Media adq.	no							
Despl. agua-grasa	máximo							
Shim	predeterminado							
mDIXON	no							
Supresión de grasa	no							
Supresión de agua	no							
MTC	no							
Modo de difusión	no							
Modo SAR	alta							
modo BL	predeterminado							
Parámetro SAR (máx)	0							



Left Screenshot Parameters:

Parameter	Value
Voixel	0.53 x 0.61 x 3.00
Cor	1.00
Rel. SNR	1.00
TE	90
TR	2500

Right Screenshot Parameters:

Parameter	Value
Voixel	0.53 x 0.61 x 3.00
Cor	1.071
Rel. SNR	1.071
TE	90
TR	6000



NO se puede usar una
secuencia de una
anatomía en otra
anatomía distinta

Diferencias de elementos de antena y forma de la misma



16 ch. rodeando a la anatomía



8 ch. SIN rodear a la anatomía





Acquisition Timing

Freq	346	Freq DIR	S/I
Phase	320	Flow Comp	
NEX	1.00	Direction	
Phase FOV	0.50	Shim	Auto
Acq. Before Phase		<input type="checkbox"/> Phase Correct	
		<input checked="" type="checkbox"/> Contrast	
		Amt	15CC ml
		Agent	MH

Acquisition Timing

Freq	256	Freq DIR	R/L
Phase	128	Flow Comp	
HEX	1.00	Direction	
Phase FOV	1.00	Shim	Auto
Acq. Before Phase		<input type="checkbox"/> Phase Correct	
		<input type="checkbox"/> Contrast	
		Amt	
		Agent	

initial	geometry	contrast	motion	dyn/ang	post
FOV	AP (mm)	230			
	RL (mm)	184			
	FH (mm)	131			
Voxel size	AP (mm)	0.599			
	RL (mm)	0.75			
Slice thickness	(mm)	5			
Recon voxel size	(mm)	0.449			
Fold-over suppression		no			
Reconstruction matrix		512			
SENSE		no			
Stacks		1			
type		parallel			
slices		22			
slice gap		user defined			
gap (mm)		1			
slice orientation		transverse			
fold-over direction		RL			
fat shift direction		P			
Minimum number of...		1			
Slice scan order		default			
PlanAlign		no			

The screenshot shows the MRI software interface with the following parameters and settings:

- Resolution:** Highlighted in red.
- IPAT:** Highlighted in red.
- PAT mode:** CAIPIRINHA
- Accel. factor:** GRAPPA (highlighted in red)
- Ref. lines:** CAIPIRINHA
- Reference scan mode:** GRE/separ...
- CAIPIRINHA mode:** Free
- Accel. factor 3D:** 1
- Ref. lines 3D:** 24
- Reordering Shift 3D:** 0
- Imaging Sequence:** Highlighted in red in the lower panel.

Additional parameters visible in the lower panel include:

- Scan Plane: Axial
- TR: 25.4
- TE: 10.8
- Phase FOV: 3.00
- Slice thickness: 3.4
- Number of slices: 22
- FOV: 230
- Matrix: 512 x 384
- Resolution: 0.449 x 0.75
- FOV: 230
- Matrix: 512 x 384
- Resolution: 0.449 x 0.75



Geometry	Contrast	Motion	Dyn/Ang	Postproc	Offc/Ang	Coils
AP (mm)		0.74		Total scan duration	03:28.0	
RL (mm)		0.56		Rel. SNR	0.95 (1)	
Fold-over suppression		no		Act. TR/TI (ms)	8000 / 2400	
Slice oversampling		user defined		Act. TE (ms)	300	
oversample factor		1		ACQ matrix M x P	224 x 223	
Reconstruction matrix		336		ACQ voxel MPS (mm)	1.12 / 1.12 / 1.12	
Acceleration		AI CS-SENSE		REC voxel MPS (mm)	0.74 / 0.74 / 0.56	
reduction		10		Scan percentage (%)	99.6	
denoising		medium		Act. slice gap (mm)	-0.56	
Stacks		1		WFS (pix) / BW (Hz)	0.856 / 507.3 (0.957 / 453.7)	
slices		326		TSE es / shot (ms)	4.4 / 560	
slice orientation		sagittal		TEeff / TEequiv (ms)	300 / 132	
fold-over direction		AP		Min. TR/TI (ms)	3113 / 50	
fat shift direction		F		Head SAR	< 8 %	
Multi-chunk		no		Whole body SAR / level		
O-MAR						

SÓLO PARA
PROFESIONALES
DE RM

