Bruker BioSpin MRI

ParaVision 360 V1.1

Shim Calculation

- Protocol "T2_TurboRARE_6_54K_180121"

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1. System and Acquisition Information

Table 1. System Information

Institution	EPFL Lausanne
System Name	BAP141/26
Electronic System	AVANCE NEO
Software Version	PV-360.1.1
Field Strength	14.078 T
Frequency	599.42 MHz

Table 2. Gradient Hardware Information

Gradient Coil	BFG240-120-S12B (RRI_1861554_6383)
Gradient Amplifier Type	BGA
Gradient Power Supplies	IECO_300A_500V

Shim chain identifier:

BFG240-120-S12B (RRI 1861554/6383).479065.no

Parameter that determine the shim chain identifier are marked with a (*).

Table 3. Shim Hardware Information

Shim Coil (*)	BFG240-120-S12B (RRI_1861554_6383)
Shim Power Supply	BSPS_66010
Total SPS ouptut channels (*)	1
Shim Unit Type (*)	GTCUBE
Max Shim Value / Hardware units (*)	131,070

Table 4. Shim Power Supply Output Channels

SPS Chan To Coil List (*)	SPS Chan To Coil Imax (*)	SPS Chan To Coil Umax (*)
Shim_Z2	10 A	60 V
Shim_YZ	10 A	60 V
Shim_XZ	10 A	60 V
Not Connected	10 A	60 V
Not Connected	10 A	60 V
Not Connected	10 A	60 V
Not Connected	10 A	60 V
Not Connected	10 A	60 V

SPS Chan To Coil List (*)	SPS Chan To Coil Imax (*)	SPS Chan To Coil Umax (*)
Not Connected	10 A	60 V
Shim_X2_Y2	10 A	60 V
Shim_2XY	10 A	60 V
Not Connected	10 A	60 V

Table 5. Shim Coil Properties

Coil Name	Coil Identifier	SPS Index	SPS Imax/A
Z0	Ch1: Spf17 FRED	0	1
Z	Ch2: Spf3 Gradient Z	0	3.596
Z2	Ch3: Spf4 SPS1,1 CoilPins=B1-B2 CoilId=1	1	10
X	Ch4: Spf1 Gradient X	0	3.622
Y	Ch5: Spf2 Gradient Y	0	3.596
ZX	Ch6: Spf5 SPS1,3 CoilPins=C4-C5 CoilId=2	1	10
ZY	Ch7: Spf6 SPS1,2 CoilPins=D1-D2 CoilId=3	1	10
2XY	Ch8: Spf7 SPS2,5 CoilPins=F1-F2 CoilId=4	2	10
X2-Y2	Ch9: Spf8 SPS2,4 CoilPins=E4-E5 CoilId=5	2	10

Table 6. Gradient Hardware Components

Gradient Power Supply (*)	IECO_300A_500V
Max Current (*)	300 A

Table 7. Acquisition Information

Acquisition Date and Time	May 31, 2022 1:22:35 PM
Subject	MRSI_Rat_Reproducibility_31052022^^^^
Study / Expno / Procno	MRSI_Rat_Reproducibility_31052022 / E12 / 1

Study Directory:

20220531_122600_MRSI_Rat_Reproducibility_31052022_MRSI_Rat_Reproducibility_31052022_1_1

Table 8. Field Map

Property	Value
Expno	900,001
Procno	1

Table 9. Basic Shim Area

Property	Value
Shape	Ellipsoid_In_GobjShape
Extent +1; 1st dir	13.8 mm
Extent +2; 2nd dir	8 mm
Extent +3; 3rd dir	15 mm

Property	Value
Margin +1; 1st dir	0 mm
Margin +2; 2nd dir	0 mm
Margin +3; 3rd dir	0 mm

2. Basic Shim Results

Status of shim calculation

Succeeded.

Table 10. Used Pixels

Used Field Values	19,428
Effective Volume	863.08ul

Table 11. Basic Shim Vector

Coil	Map Shim /%	New Shim /%	New Shim /A
Z0	-0.000	-0.034	-0.000
Z	-0.229	-6.783	-0.244
Z2	1.343	4.813	0.481
X	-1.562	-1.108	-0.040
Y	7.401	3.197	0.115
ZX	2.069	-6.016	-0.602
ZY	-5.865	31.704	3.170
2XY	3.754	1.551	0.155
X2-Y2	1.820	13.710	1.371

Table 12. Basic Shim Statistics

Property	Map	Basic Shim (est.)
Mean/Hz	-46.4	0.0
Standard Deviation /Hz	105.3	33.3
Min/Hz	-492.9	-240.5
Max/Hz	144.6	162.5
Absolute Dev./Hz	86.6	20.6
Outliers Low/High	85 / 0	408 / 94

Figure 1. Histogramm of measured Field Values

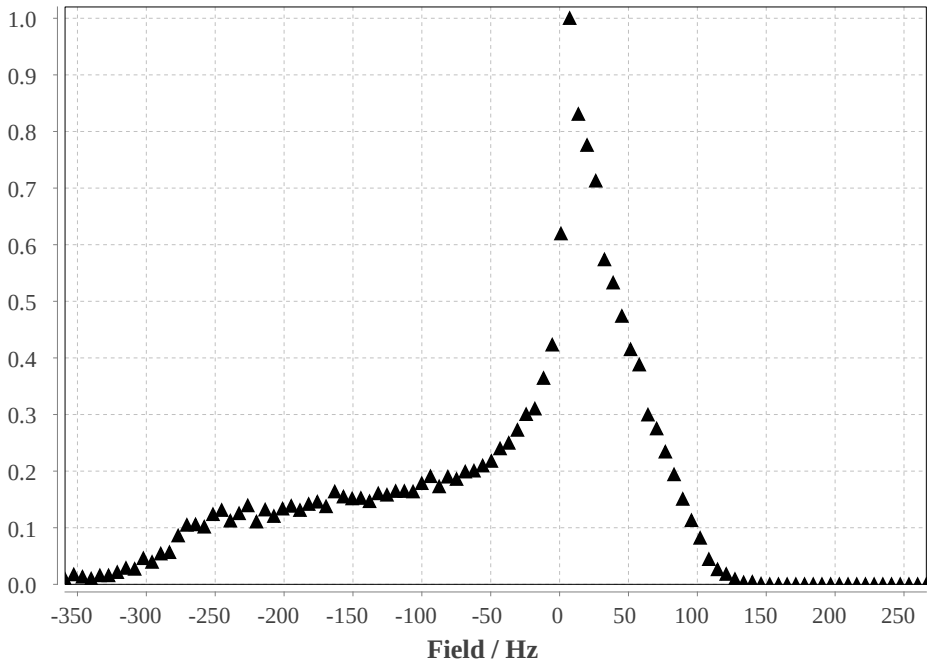

Figure 2. Histogramm of Predicted Field Values