Phantom QA Results: 32 CH

Date:05/08/2017

Dartmouth Brain Imaging Center (DBIC)

Measurement	Value	Comments
Signal-to-Noise Ratio (SNR) (fig 2)	213.3	
Signal-to-Fluctuation-Noise ratio (SFNR) (fig 2)	221.5	
Radius of Decorrelation (RDC) (fig 3)	8.6	
Drift (fig 1)	0.28	
Percent Fluctuation (fig 1)	0.05	
Fourier analysis of the residuals (fig 2)	<2	
Ghost Mean Percentage (fig 10)	2.18%	Better than the recommended level (3% <) in ref 2:

Table 1: Key measurements

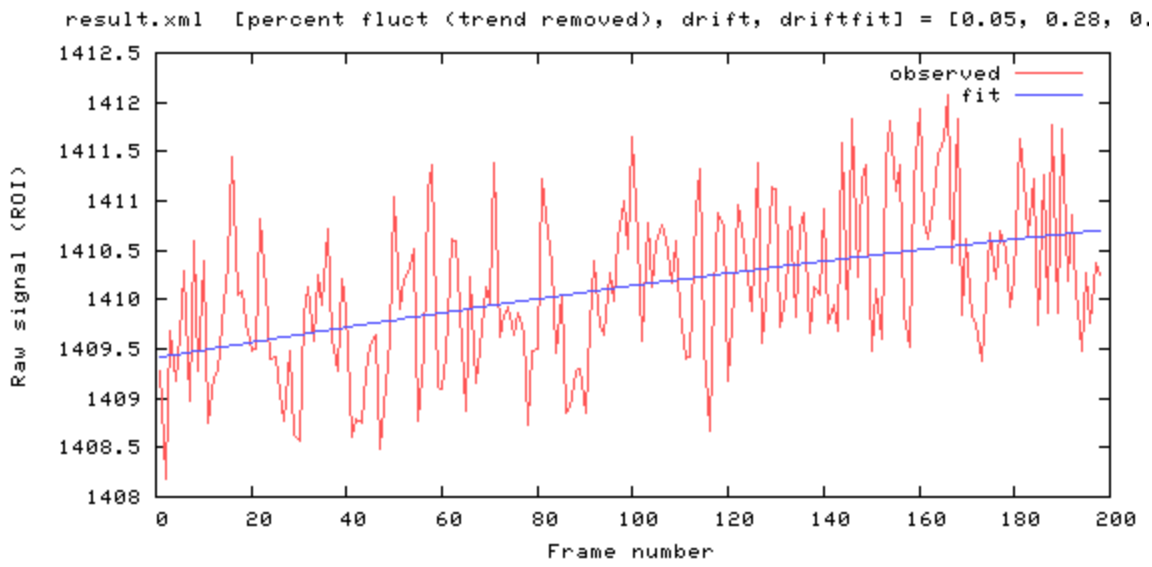


Figure 1

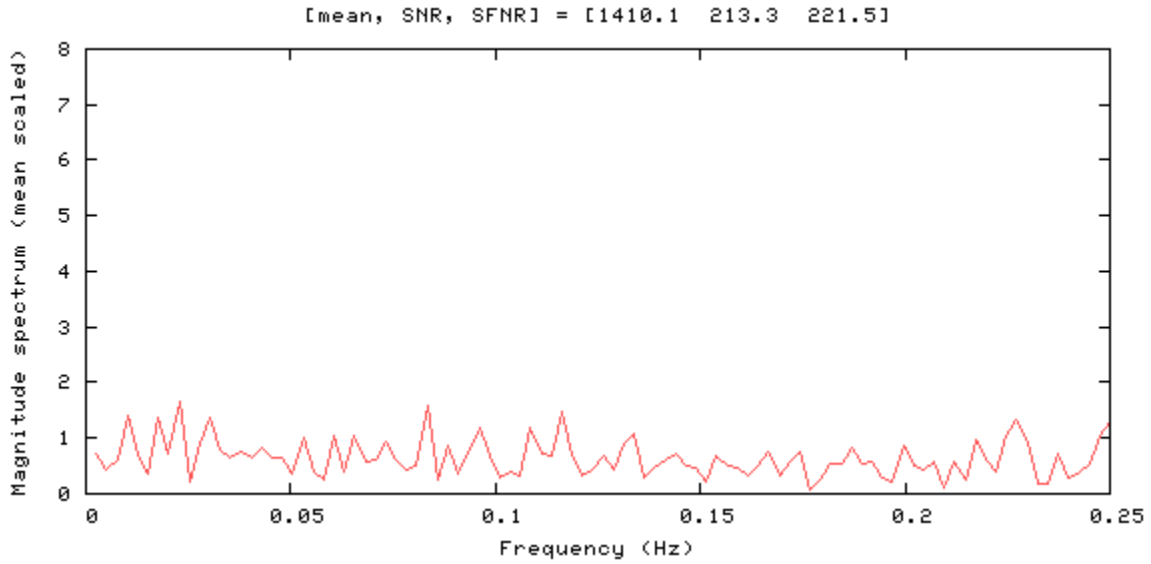


Figure 2

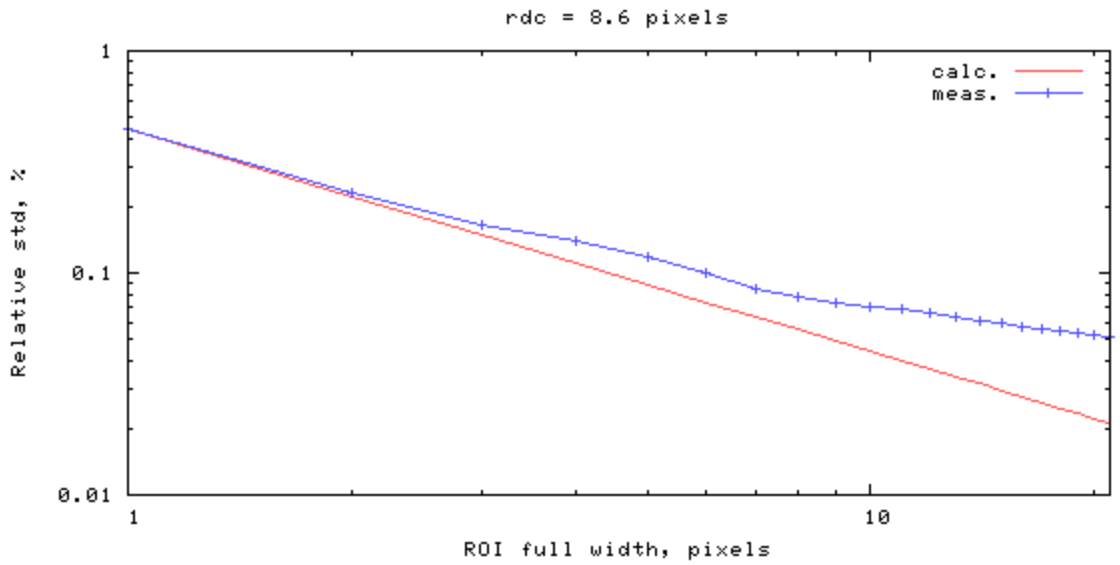


Figure 3

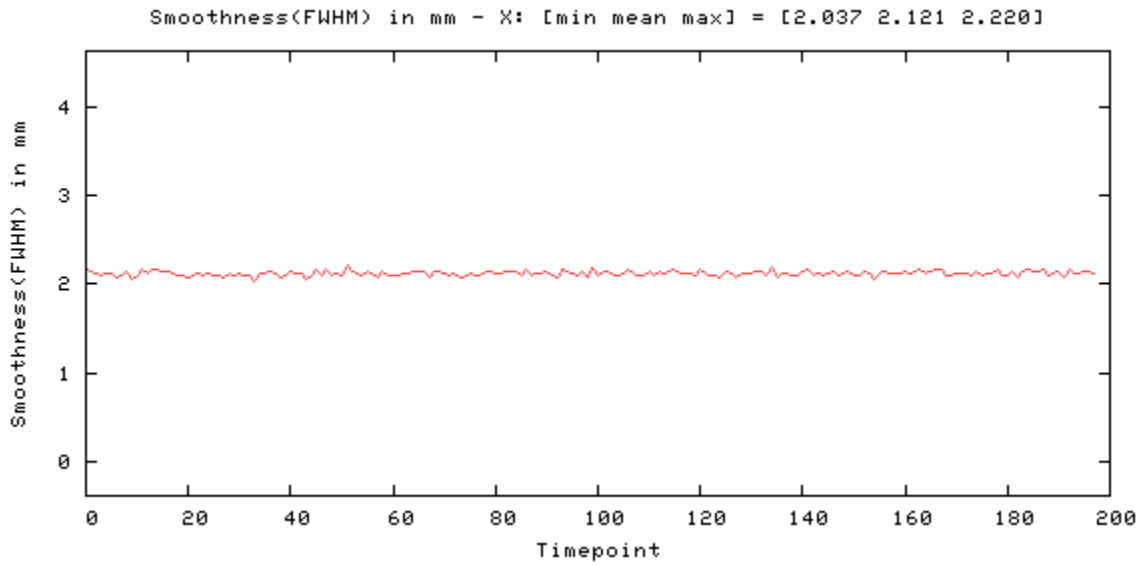


Figure 4

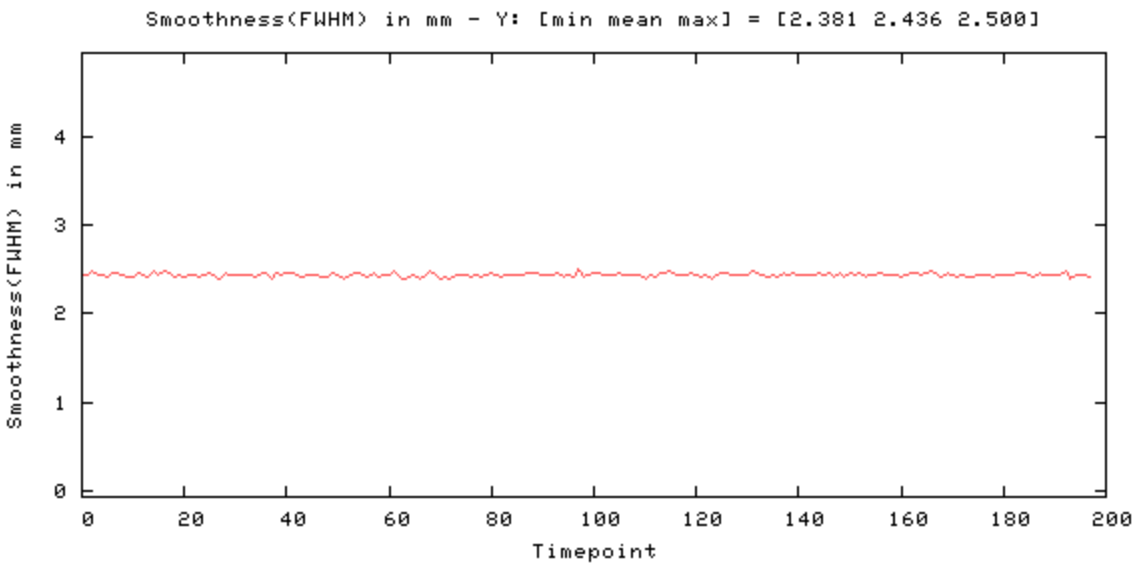


Figure 5

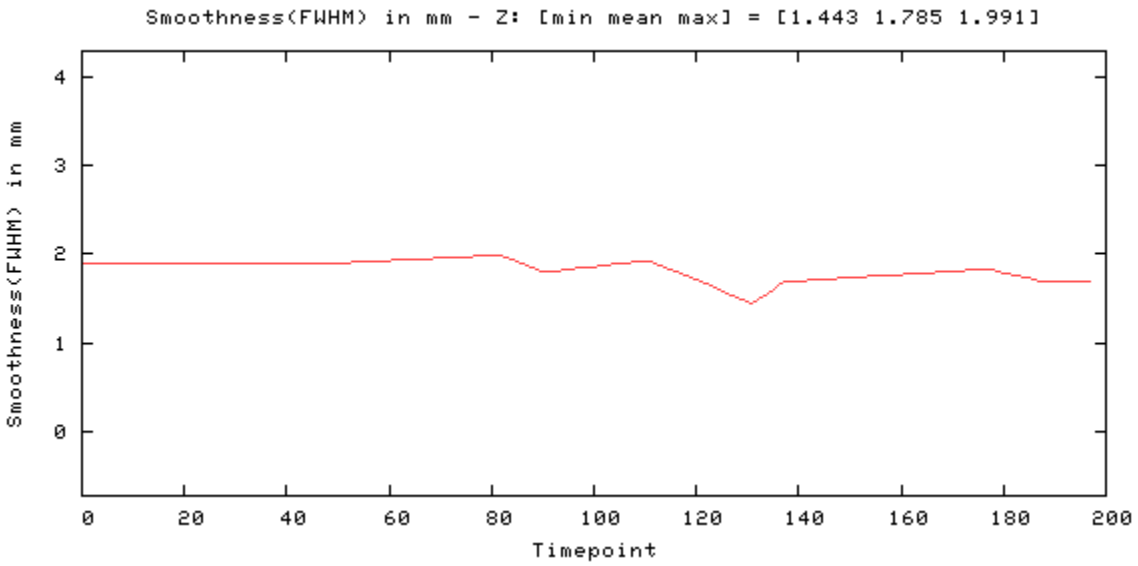


Figure 6

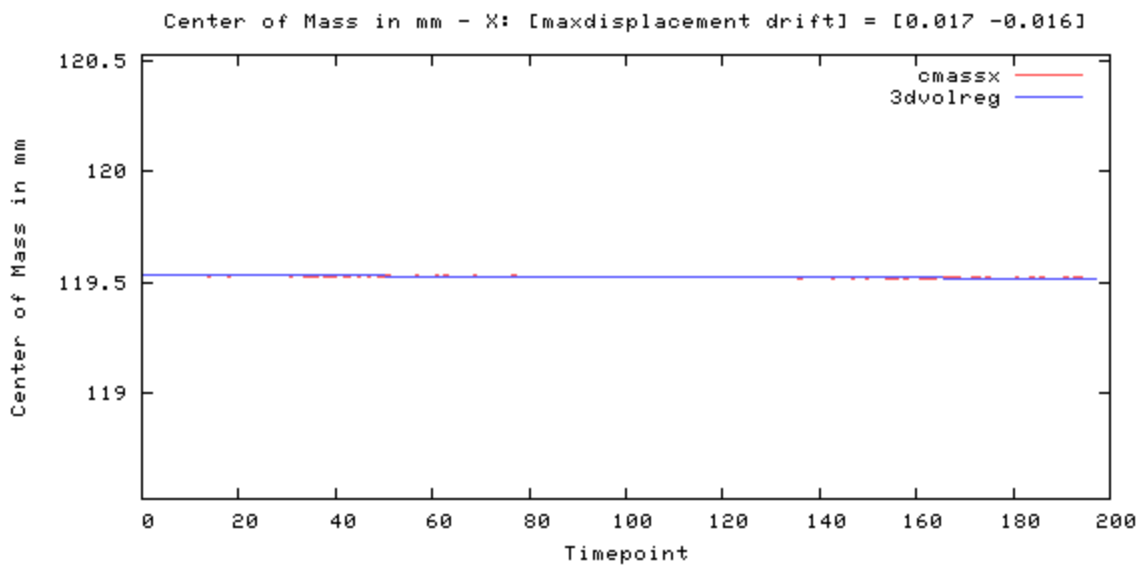


Figure 7

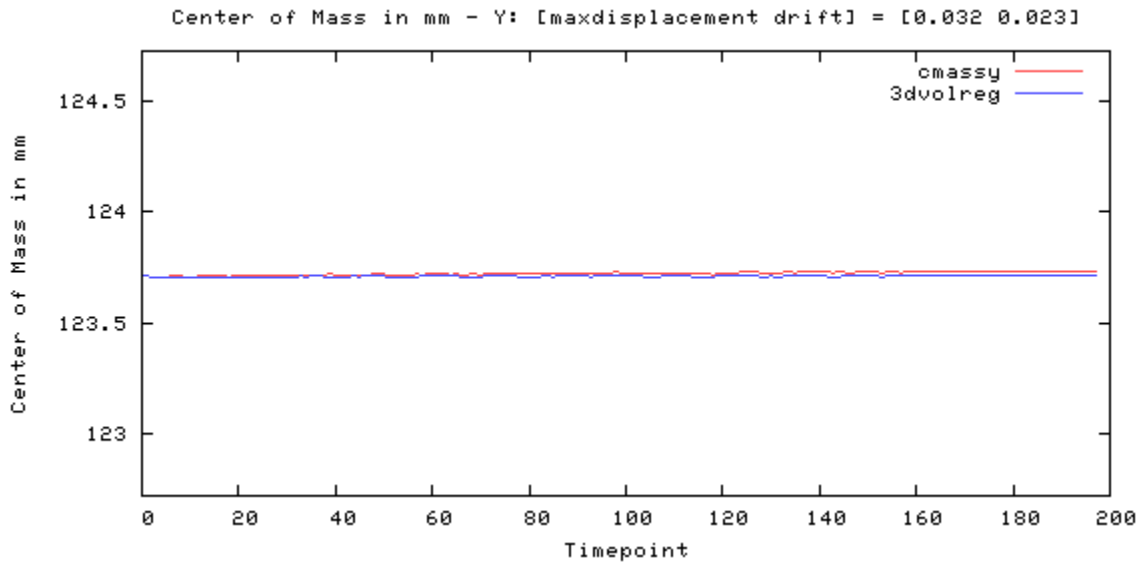


Figure 8

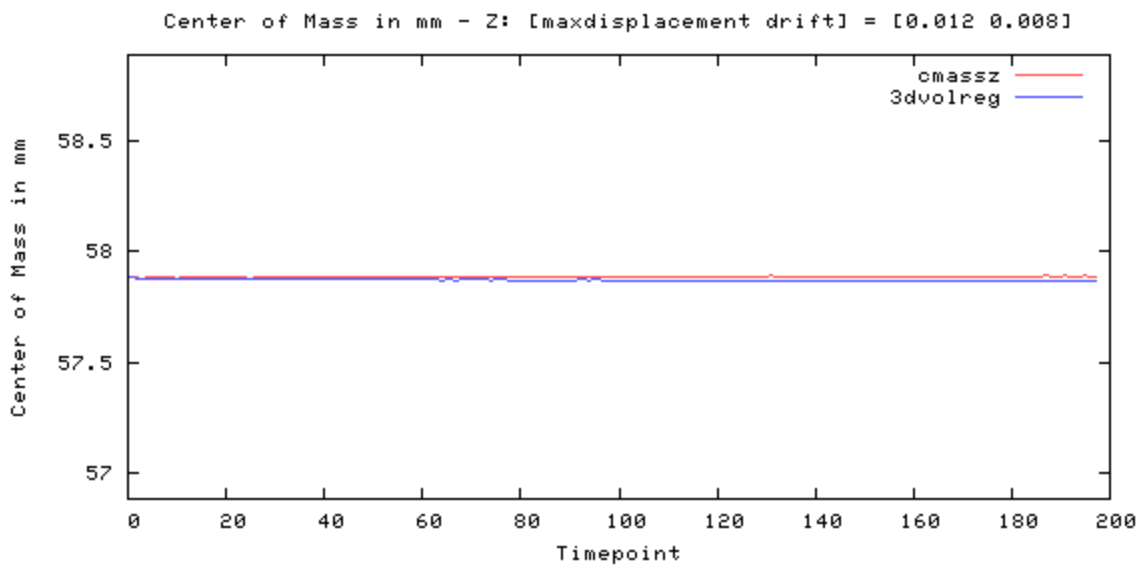


Figure 9

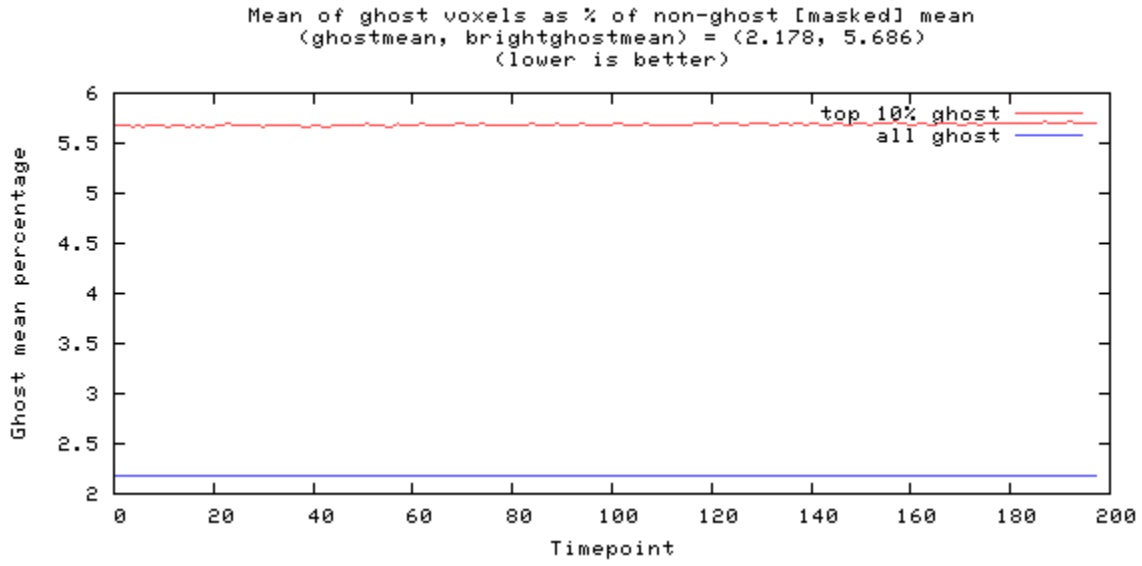


Figure 10

Odd-even difference image



image min: -305, image max: 279

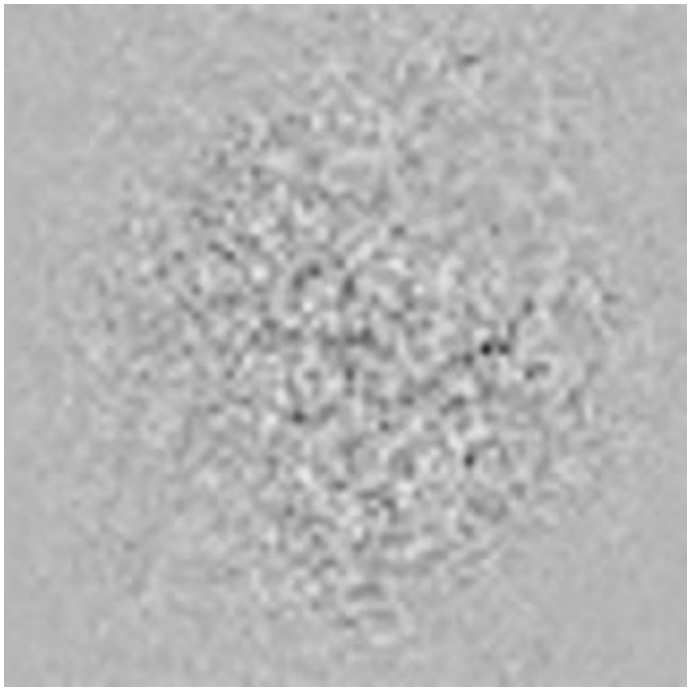


Figure 11

Mean image



image min: 0, image max: 2225.94

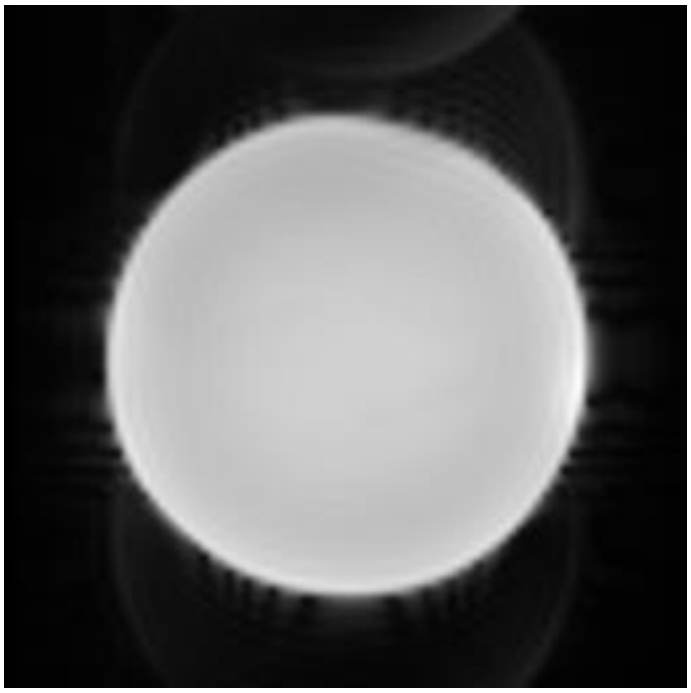


Figure 12

Standard Deviation image



image min: 0, image max: 8.05781

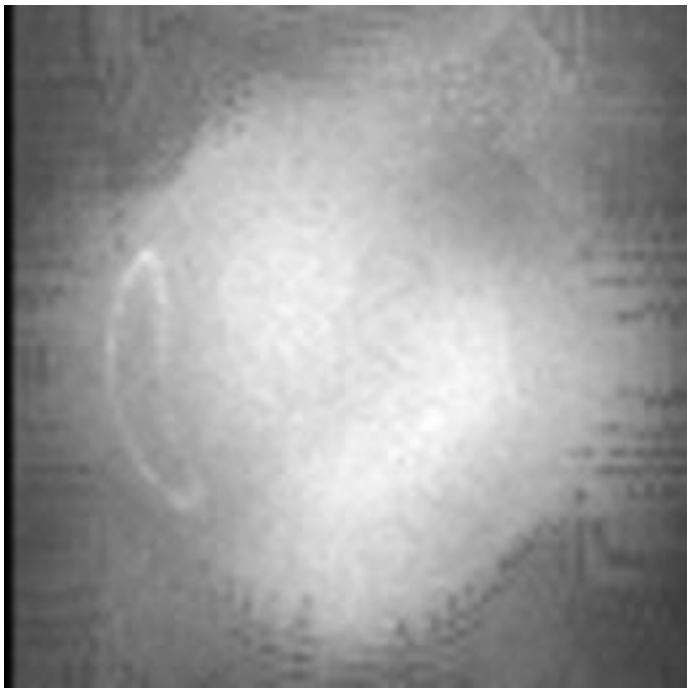


Figure 13

SFNR image



image min: 0, image max: 754.237

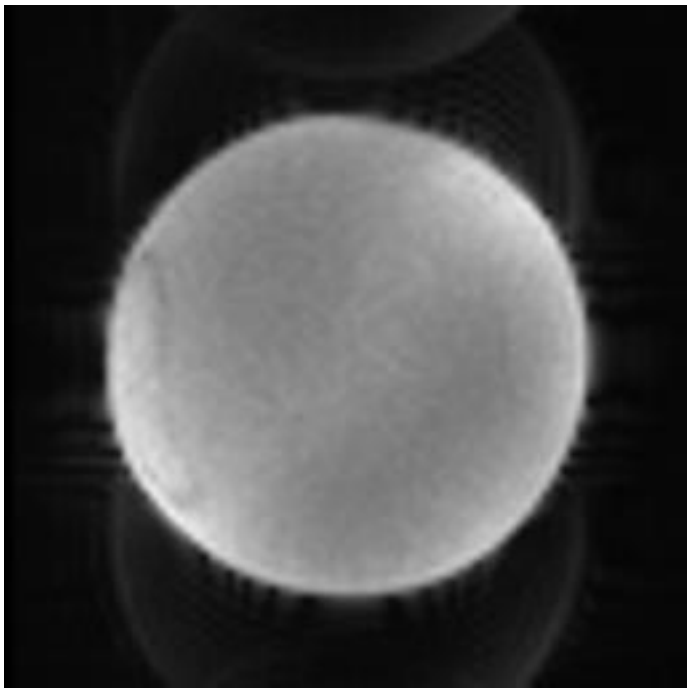


Figure 14

Acquisition parameters

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psdname	%SiemensSeq%\ep2d_bold
examnumber	64
studyid	QA
seriesnumber	5
runnumber	1
scanningsequence	EP
sequencevariant	SK
magneticfield	3
description	func-bold_task-rest_acq-p2
scandate	2017-05-08
scantime	09:55:11
tr	2000
te	35.000000
flipangle	90
prescribedslicespacing	3.99
frequencydirection	1
acquisitionmatrix	80 80
bandwidth	185.2
transmitcoilname	Body
institution	Dartmouth College - PBS
examdescription	dbic^QA
scanner	AWP66112
scannermanufacturer	SIEMENS
scannermodelname	Prisma
fieldofview	240 240
psdname	%SiemensSeq%\ep2d_bold
protocolname	func-bold_task-rest_acq-p2 (func-bold_task-rest_acq-p2)

institutionaddress	Maynard 3,Hanover,NH,US,03755
institutionaldepartmentname	Department
scanoptions	FS
mracquisitiontype	2D
sequencename	*epfid2d1_80
angioflag	N
numaverages	1
imagingfrequency	123.252515
imagednucleus	1H
spacingbetweenslices	3.9899998954557
numphaseencodingsteps	79
echotrainlength	39
percentsampling	100
percentphasefieldofview	100
scannerserialnumber	66112
softwareversions	syngo MR E11
inplanephaseencodingdirection	COL
variableflipangleflag	N
sar	0.04786423096732
dBdt	0
acquisitionnumber	1
instancenumber	1
samplesperpixel	1
photometricinterpretation	MONOCHROME2
rows	480
columns	480
bitsallocated	16
bitsstored	12
highbit	11
pixelbandwidth	2315
otherinfo	

sliceorder	2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,1,3,5,7,9,11,13,15,17,19,21,23,25,27,29

References:

1. Friedman L, Glover GH. Report on a multicenter fMRI quality assurance protocol. J Magn Reson
Imaging. 2006a; 23(6):827–839. [PubMed: 16649196]

2. Acceptance Testing and Quality Assurance Procedures for Magnetic Resonance Imaging Facilities, AAPM Report No. 100

3. https://www.nitrc.org/projects/bxh_xcede_tools