

Phantom QA Results: 32 CH

Date:04/23/2018

Dartmouth Brain Imaging Center (DBIC)

Measurement	Value	Comments
Signal-to-Noise Ratio (SNR)	214.3	
Signal-to-Fluctuation-Noise ratio (SFNR)	133.6	SFNR is considerably low
Radius of Decorrelation (RDC) (fig 3)	23.5	
Drift (fig 1)	0.46	
Percent Fluctuation (fig 1)	0.08	
Fourier analysis of the residuals (fig 2)	<5	Low frequency features
Ghost Mean Percentage (fig 10)	2.5%	Better than the recommended level (3% <) in ref 2:

Table 1: Key measurements

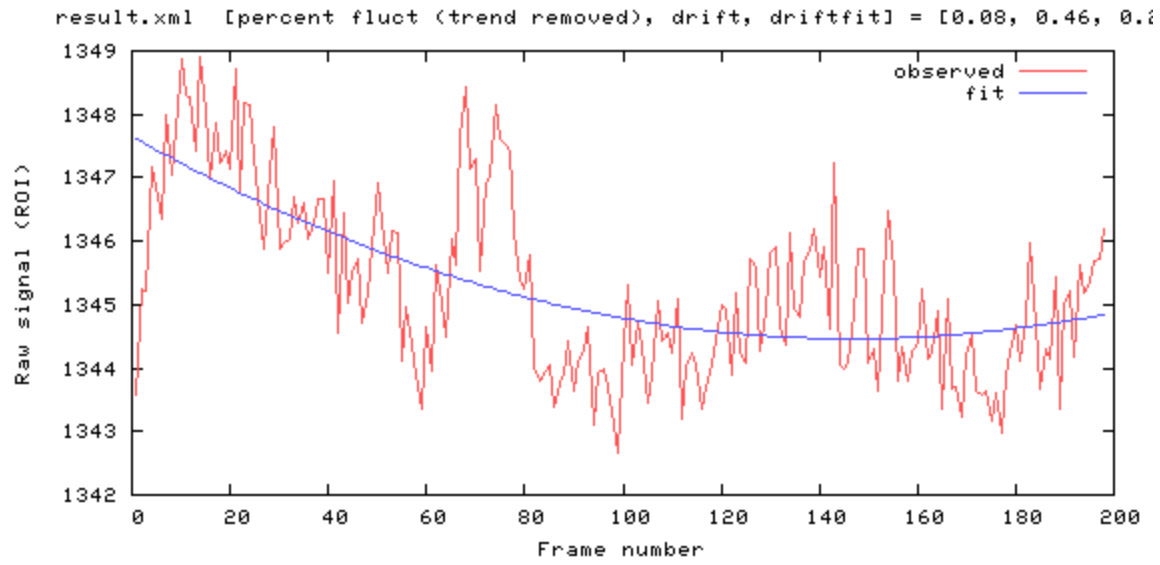


Figure 1

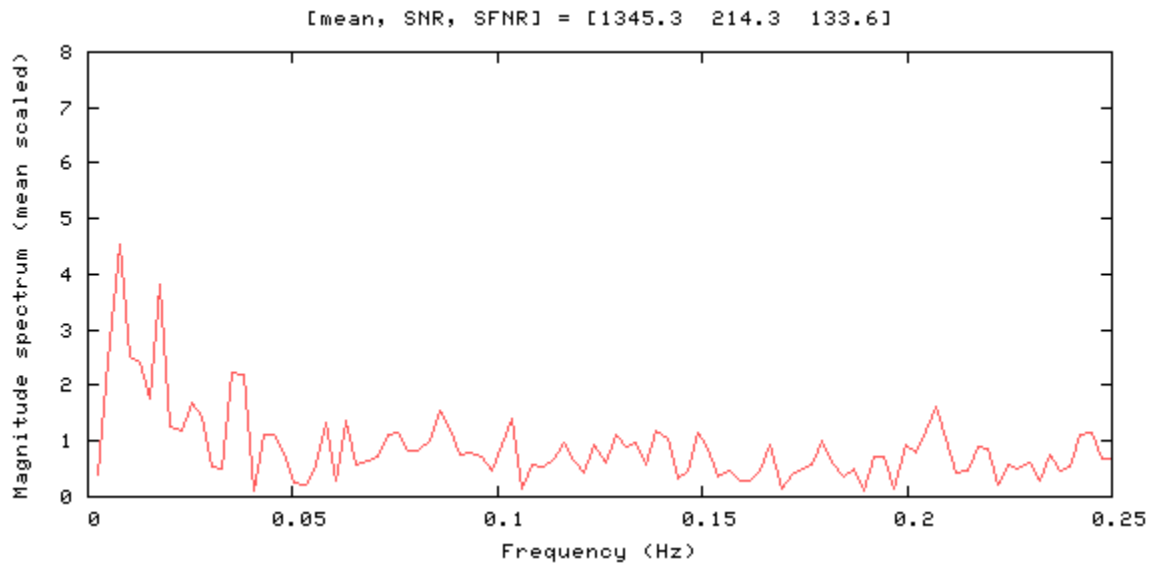


Figure 2

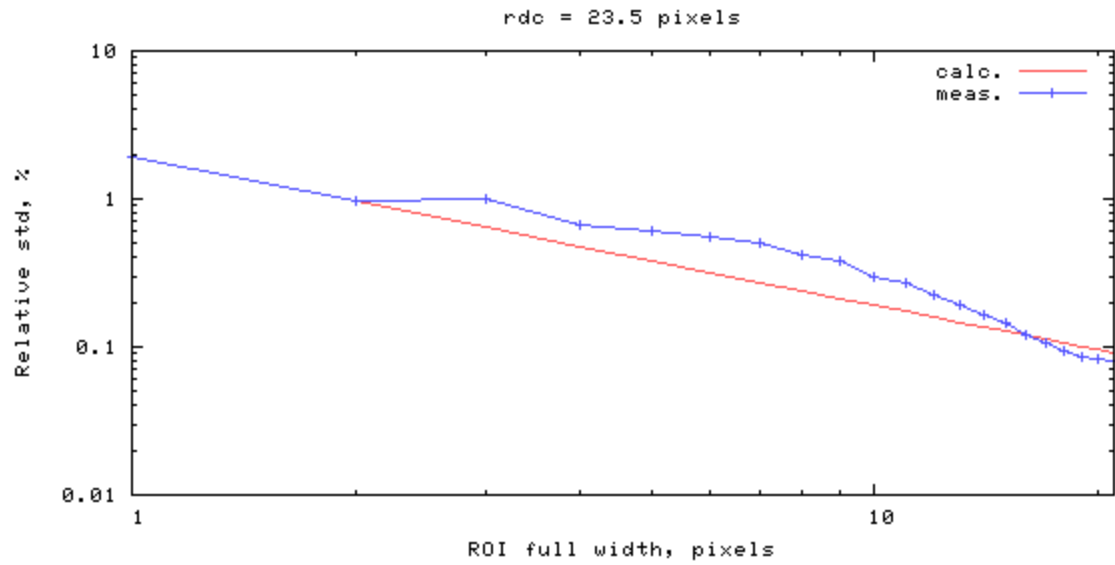


Figure 3

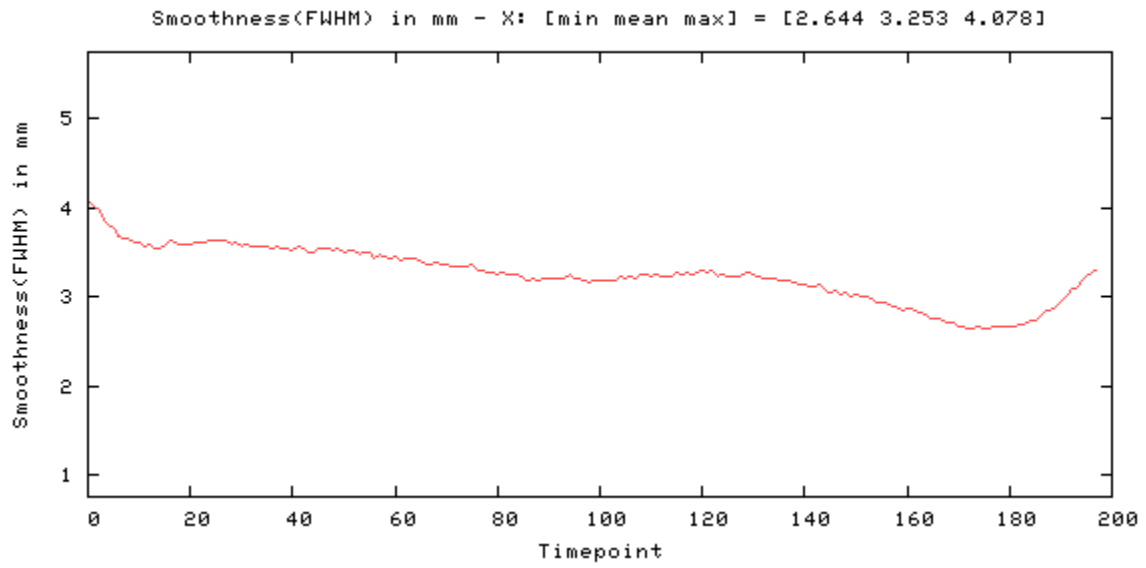


Figure 4

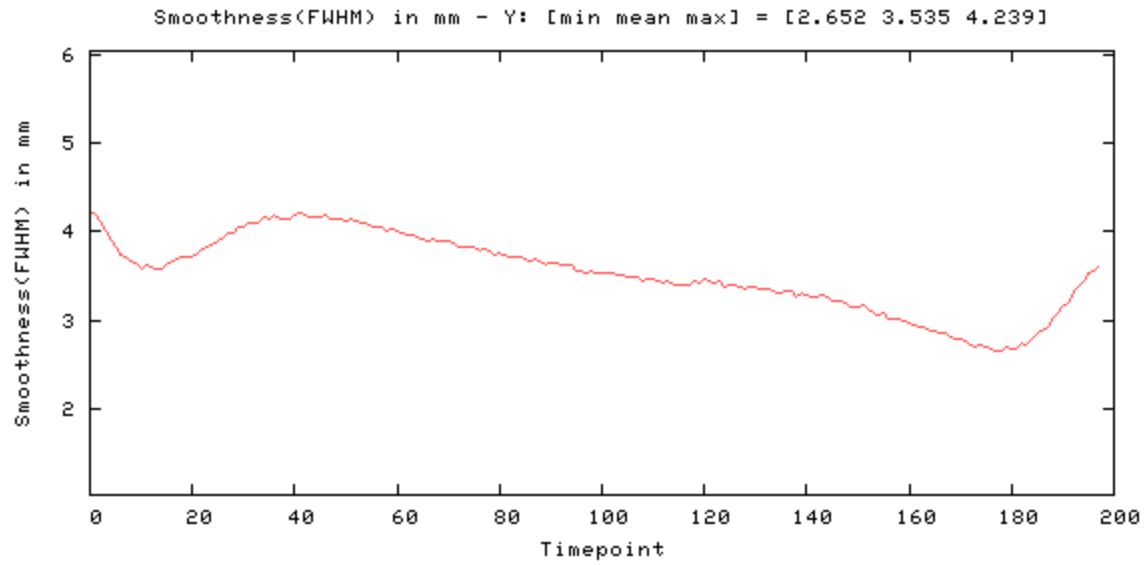


Figure 5

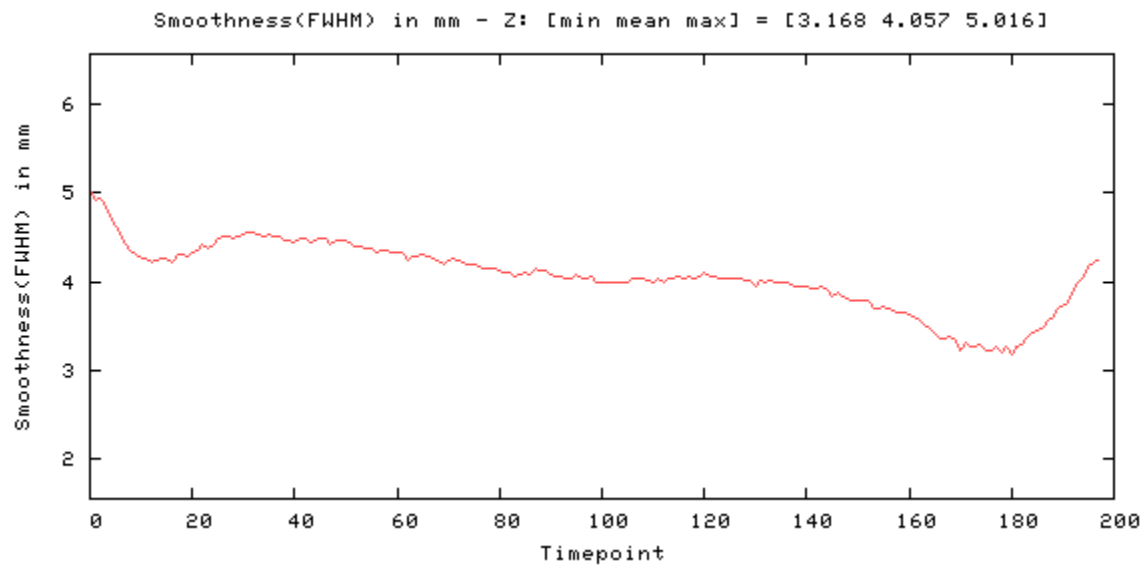


Figure 6

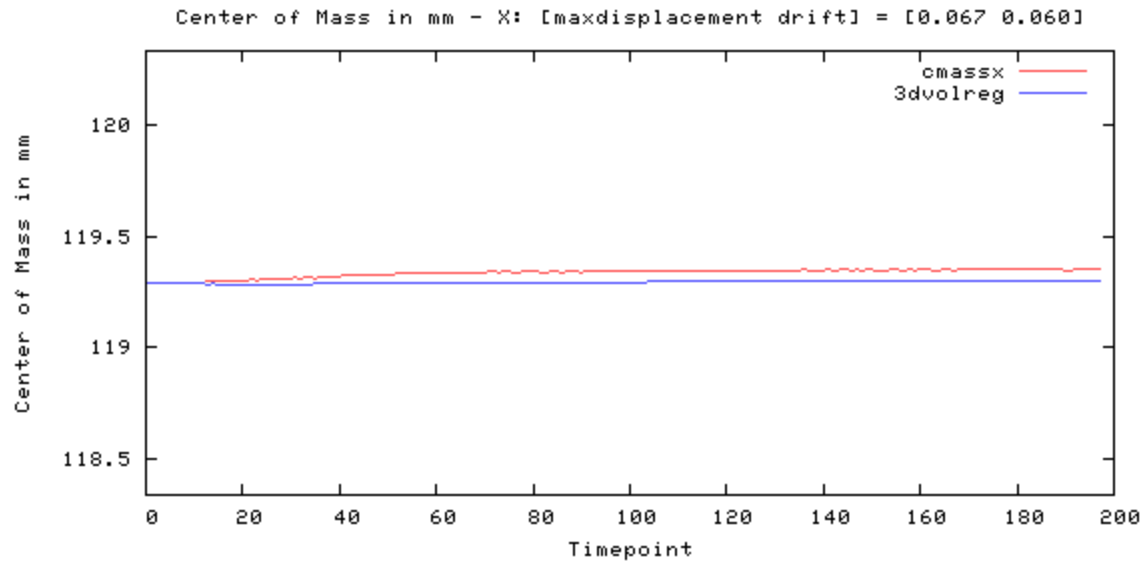


Figure 7

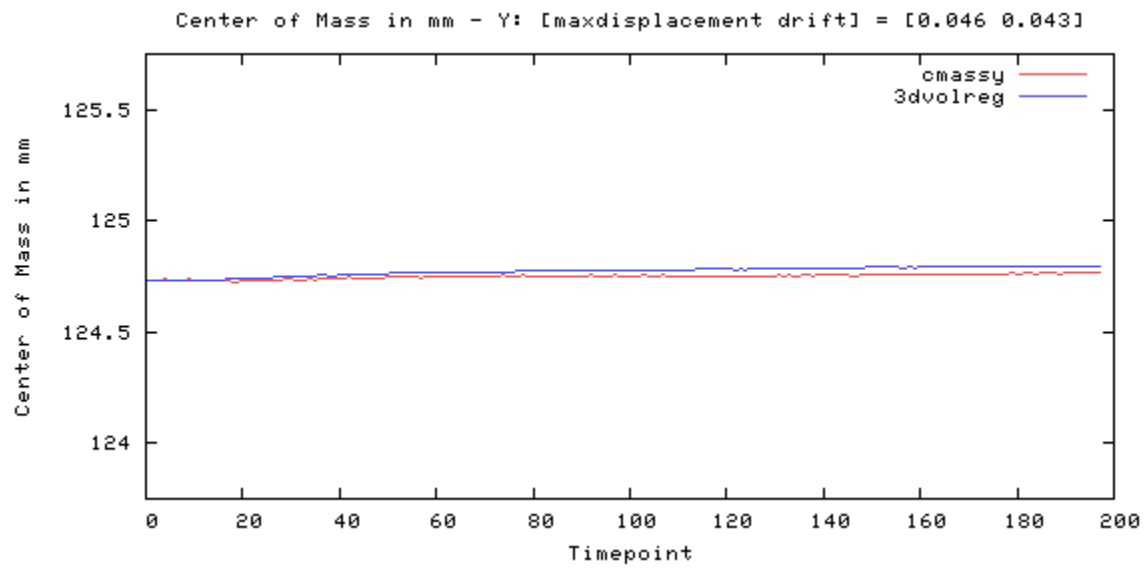


Figure 8

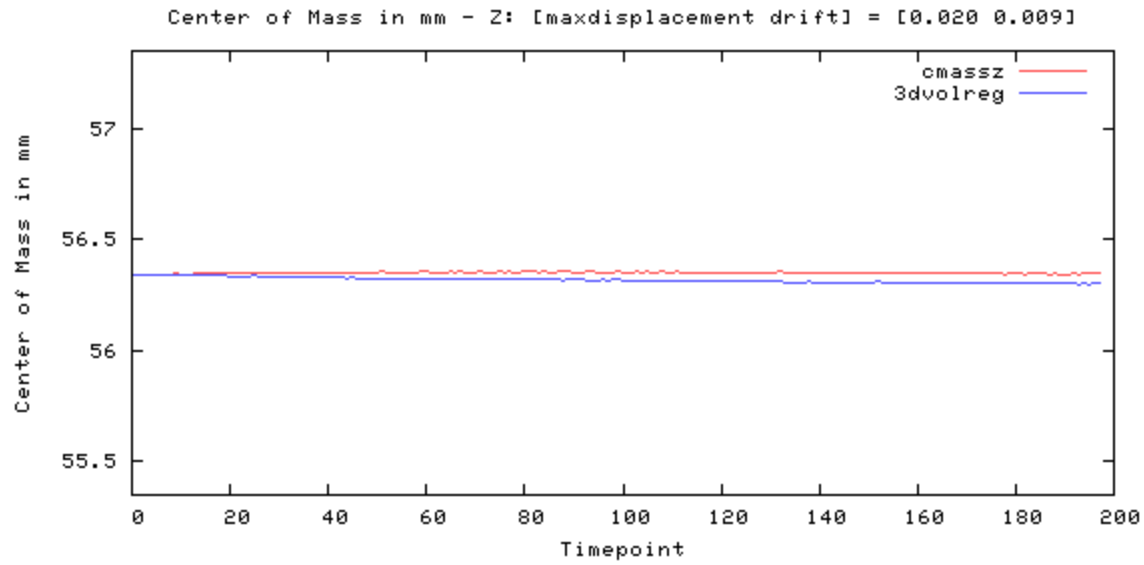


Figure 9

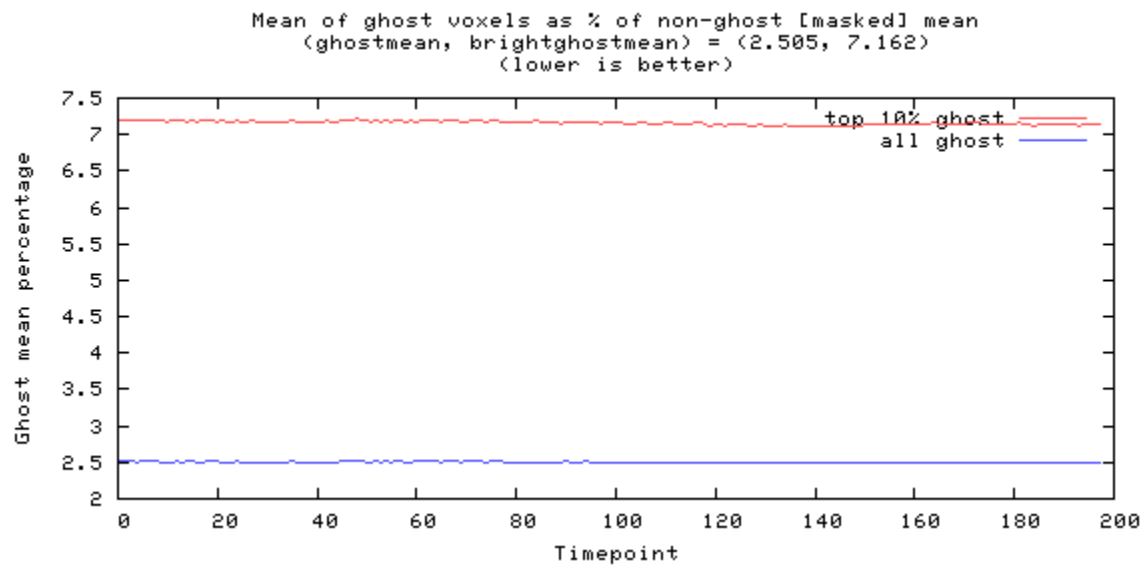


Figure 10

Odd-even difference image



image min: -345, image max: 268

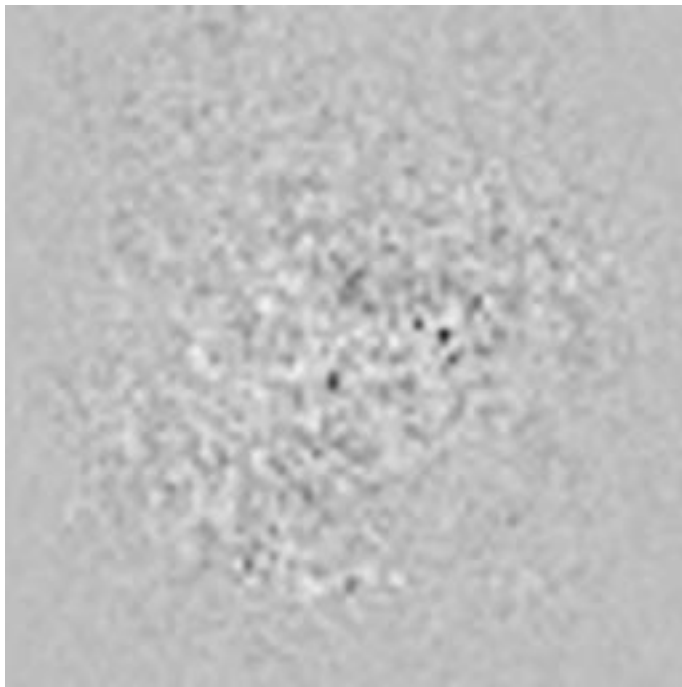


Figure 11

Mean image



image min: 0, image max: 1892.51

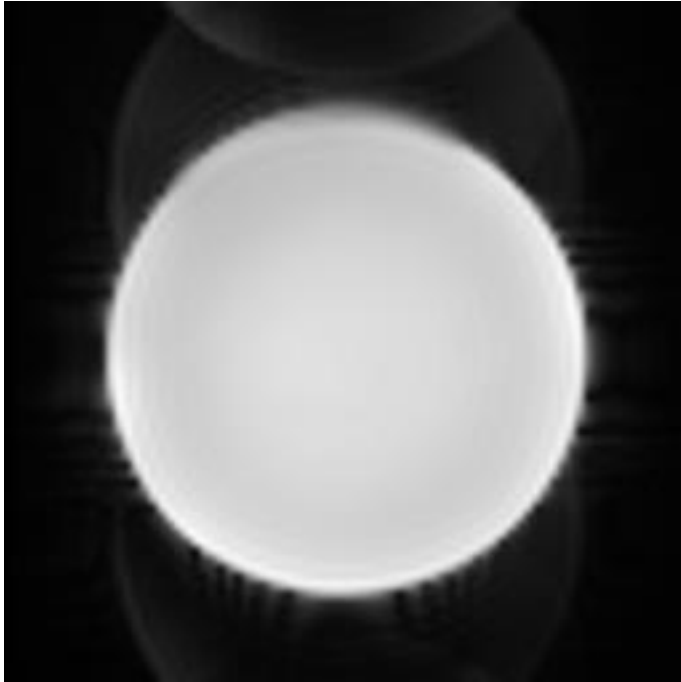


Figure 12

Standard Deviation image



image min: 0, image max: 40.0356

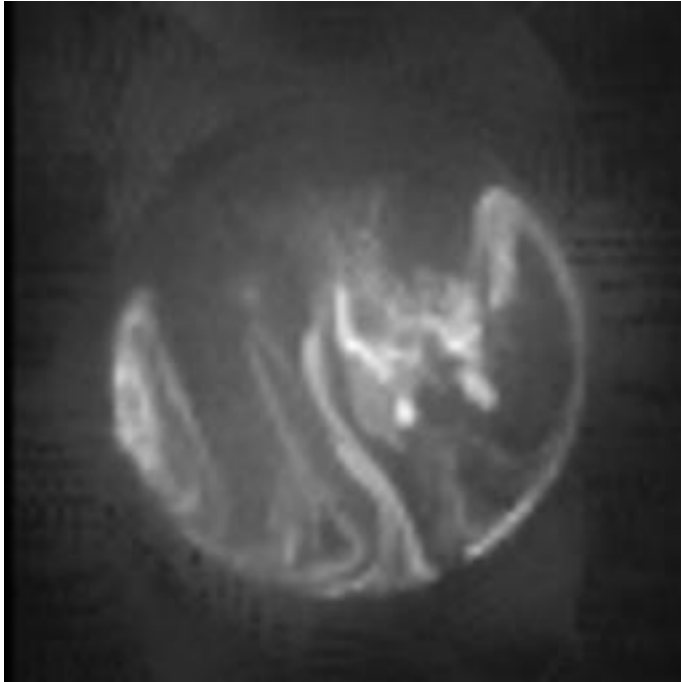


Figure 13

SFNR image



image min: 0, image max: 521.711

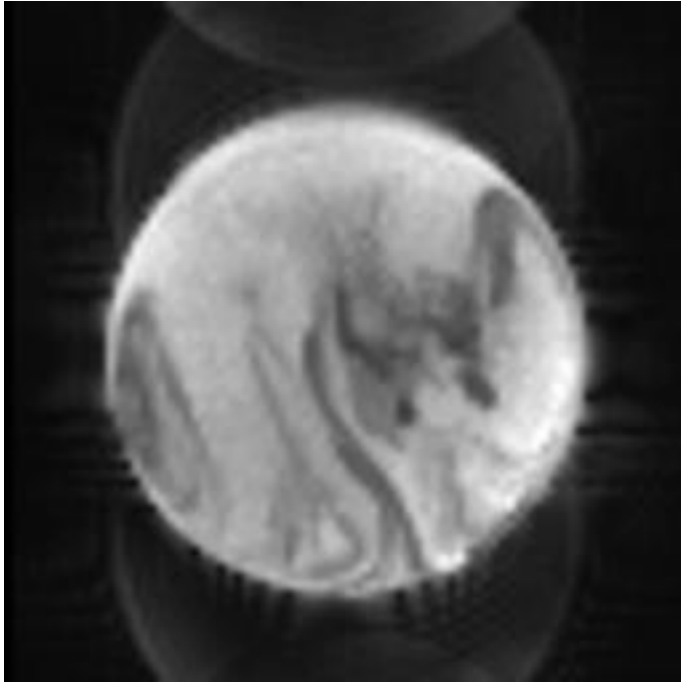


Figure 14

Acquisition parameters

dimensions	80x80x30x200
spacing	3mmx3mmx3.99mmx2000ms
gap	0mmx0mmx0.49mmx0ms
scanner	AWP66112
psdname	%SiemensSeq%\ep2d_bold
examnumber	41
studyid	qa
seriesnumber	5
runnumber	1
scanningsequence	EP
sequencevariant	SK
magneticfield	3
description	func-bold_task-rest_acq-p2
scandate	2018-04-23
scantime	09:44:47
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
institutionaldepartment name	Department
scanoptions	FS
mracquisitiontype	2D
sequencename	*epfid2d1_80
angioflag	N
numaverages	1
imagingfrequency	123.252453
imagednucleus	1H
spacingbetweenslices	3.9900000273723
numphaseencodingsteps	79
echotrainlength	39
percentsampling	100
percentphasefieldofview	100
scannerserialnumber	66112
softwareversions	syngo MR E11
inplanephaseencoding direction	COL
variableflipangleflag	N
sar	0.0555862665469
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
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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