Phantom QA Results: 32 CH

Date:01/09/2017

Dartmouth Brain Imaging Center (DBIC)

Measurement	Value	Comments
Signal-to-Noise Ratio (SNR) (fig 2)	250.4	
Signal-to-Fluctuation-Noise ratio (SFNR) (fig 2)	252.1	
Radius of Decorrelation (RDC) (fig 3)	10.0	
Drift (fig 1)	0.28	
Percent Fluctuation (fig 1)	0.04	
Fourier analysis of the residuals (fig 2)	<2	
Ghost Mean Percentage (fig 10)	2.52%	Better than the recommended level (3% <) in ref 2:

Table 1: Key measurements

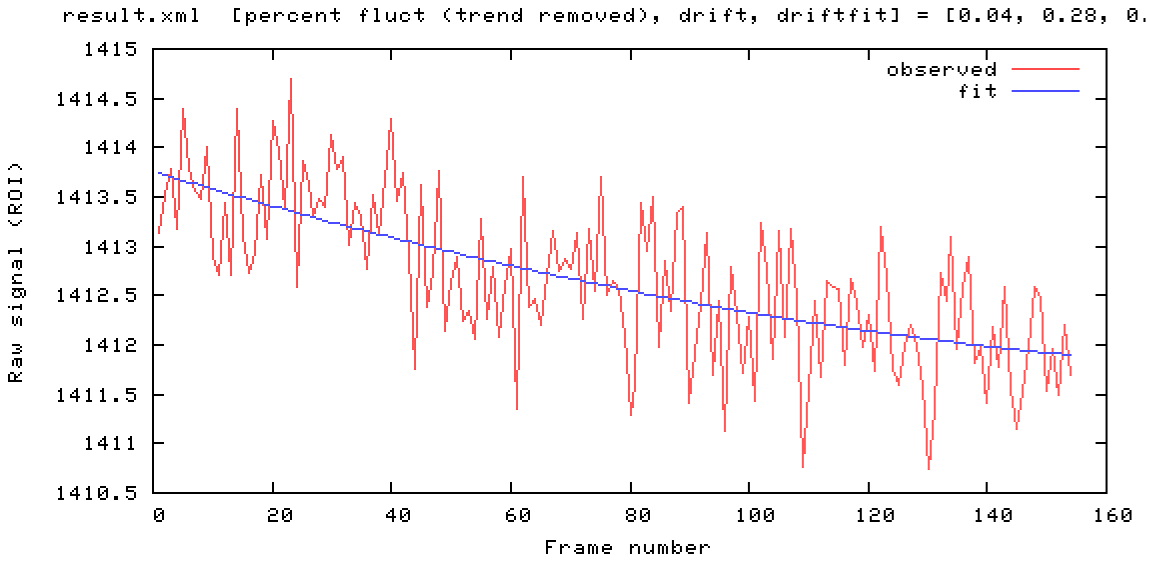

Figure 1

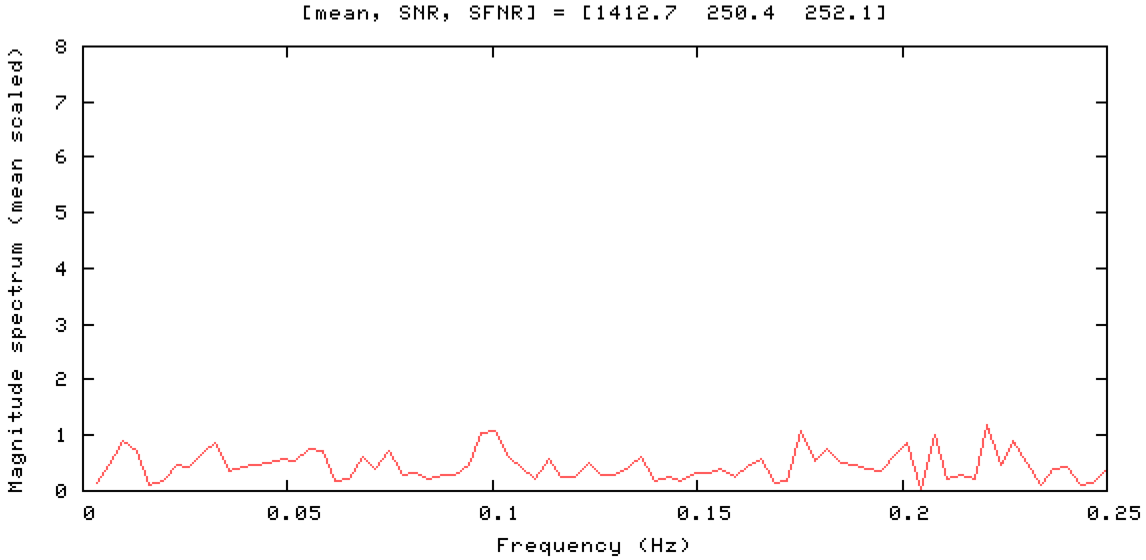

Figure 2

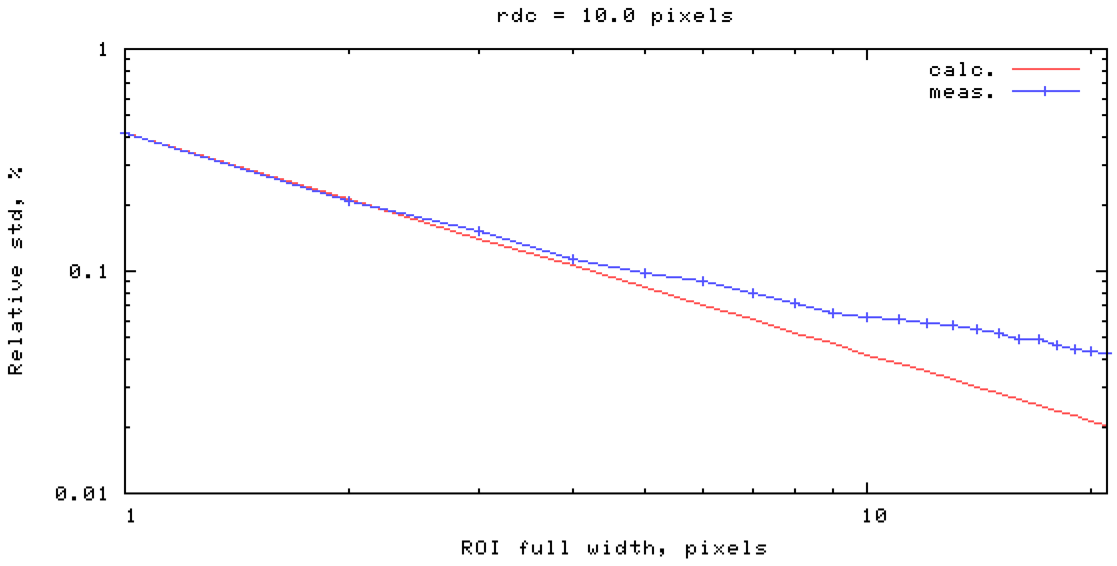

Figure 3

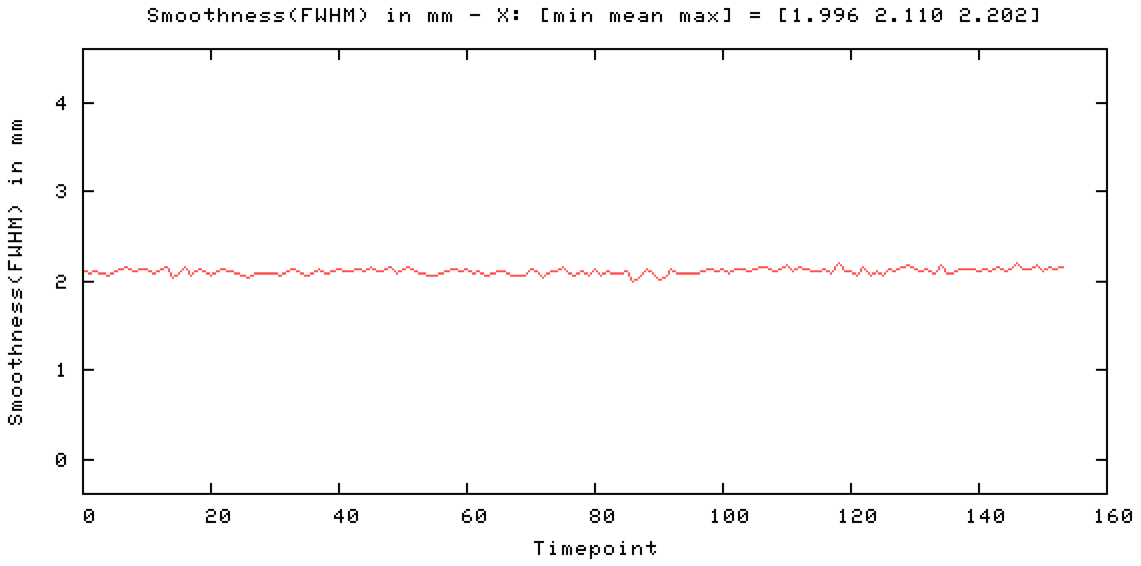

Figure 4

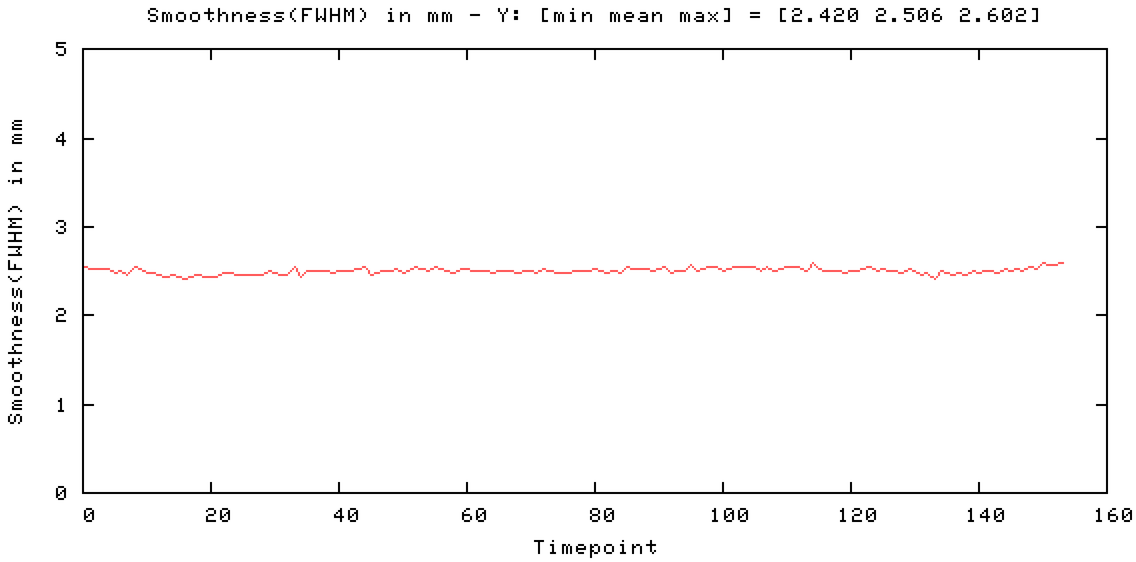

Figure 5

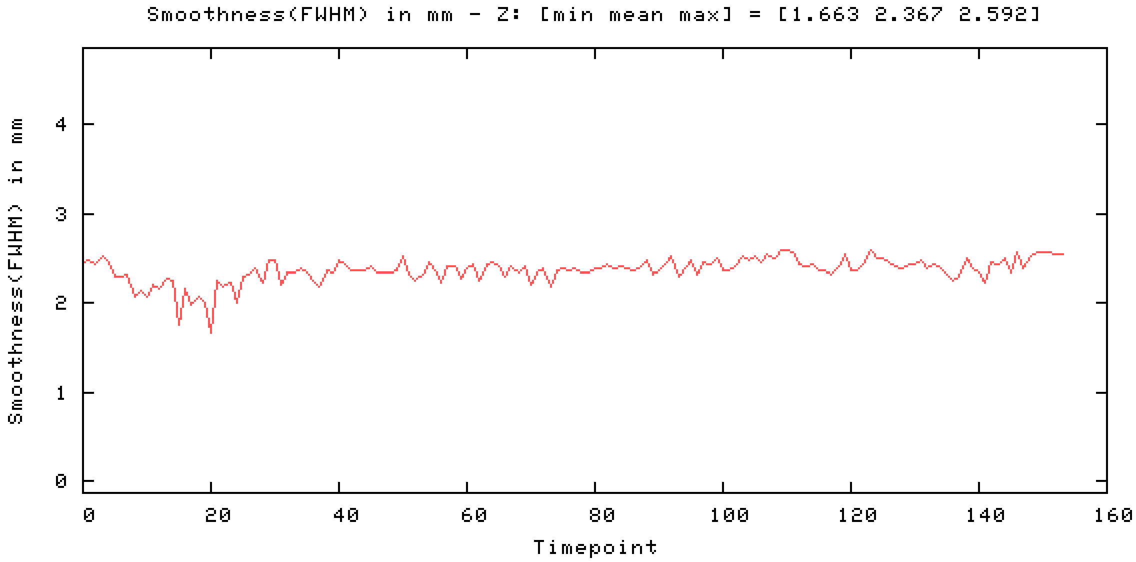

Figure 6

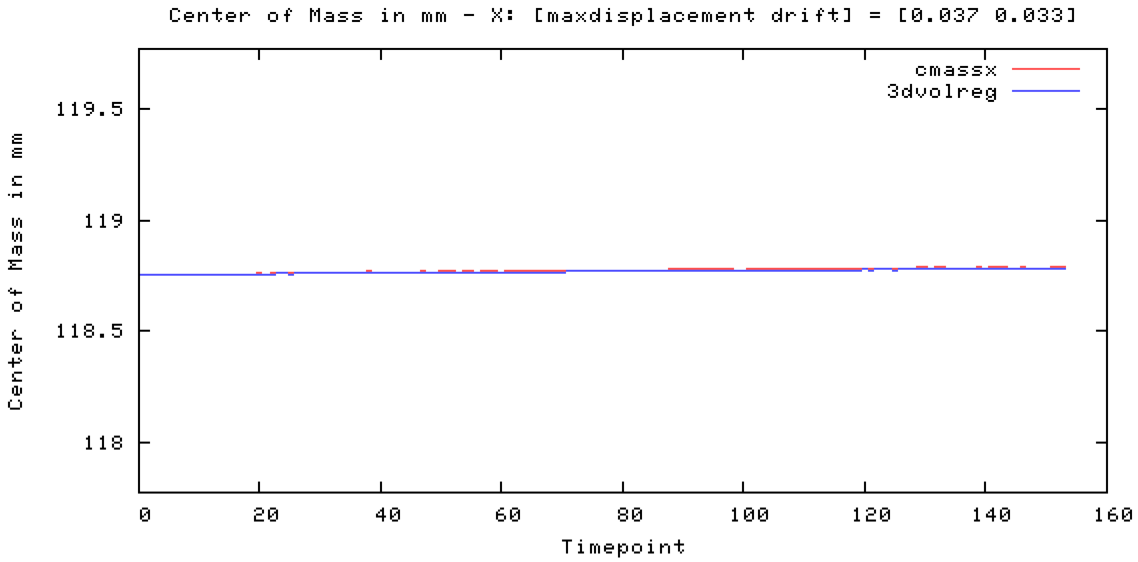

Figure 7

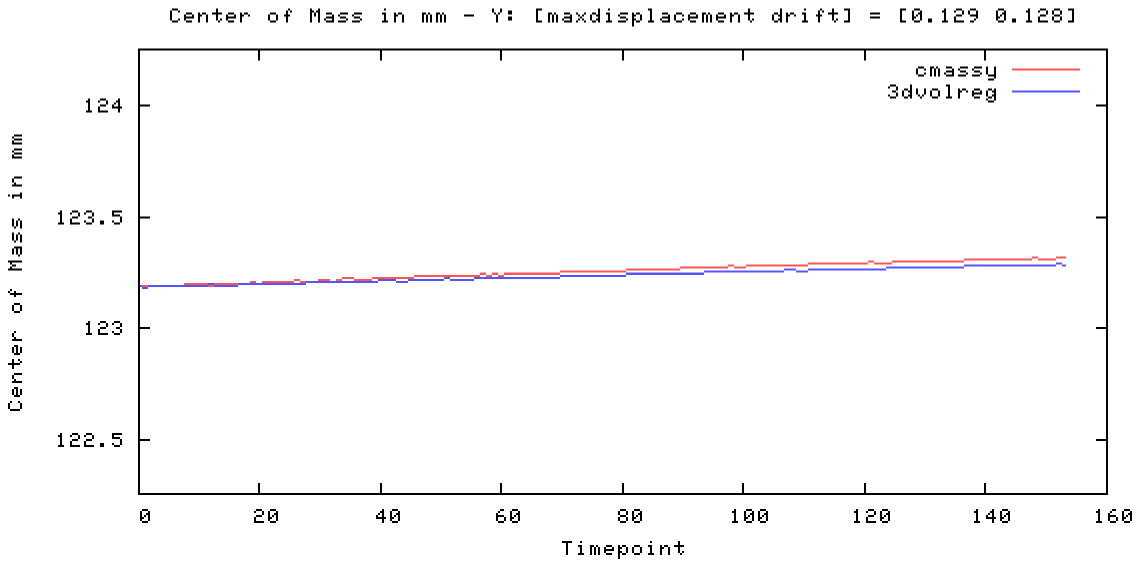

Figure 8

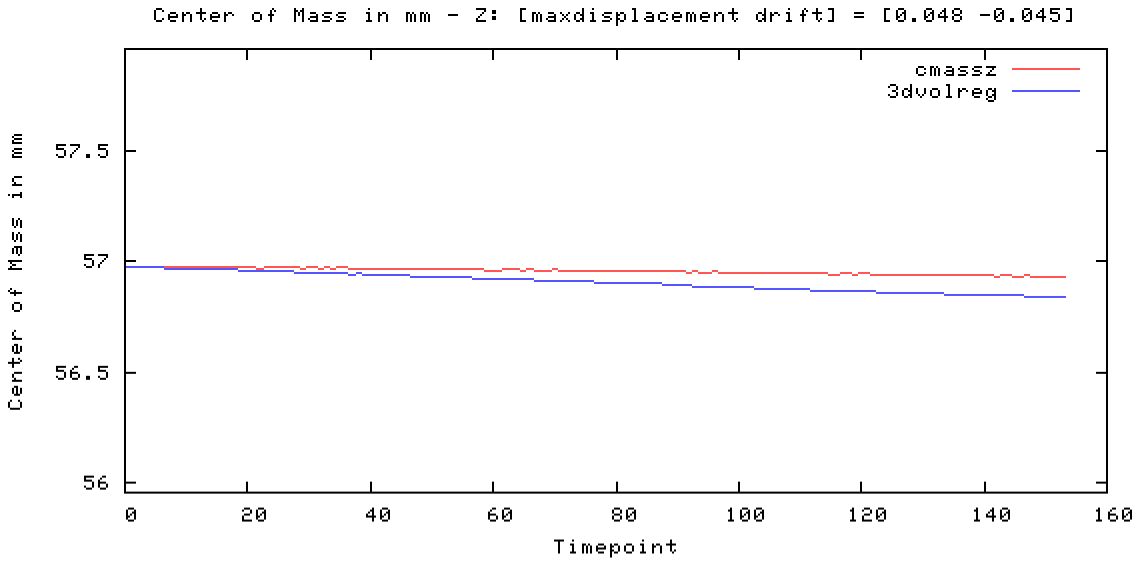

Figure 9

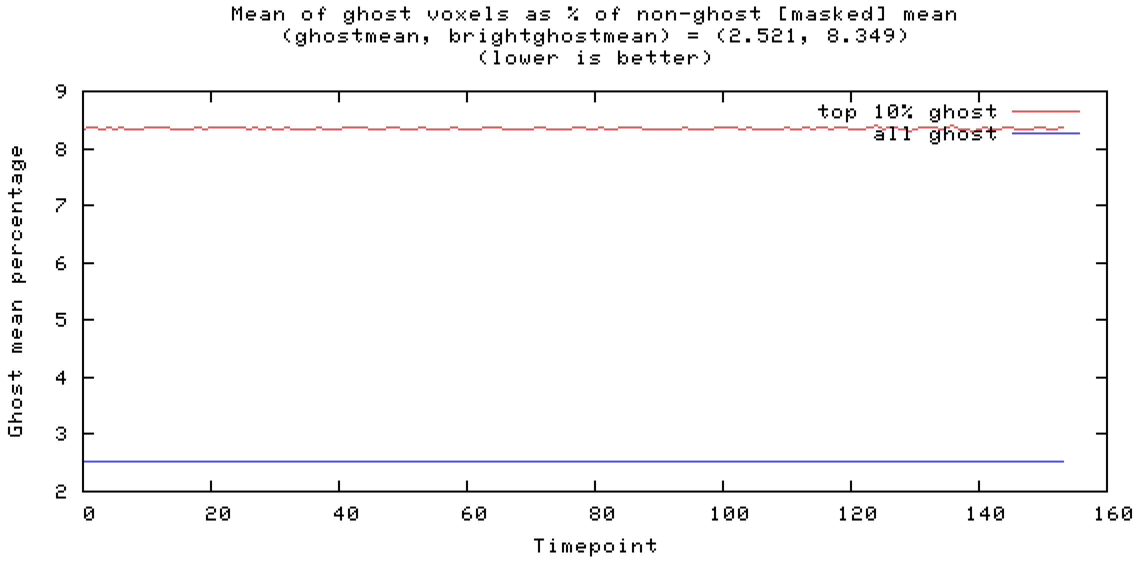

Figure 10

Odd-even difference image

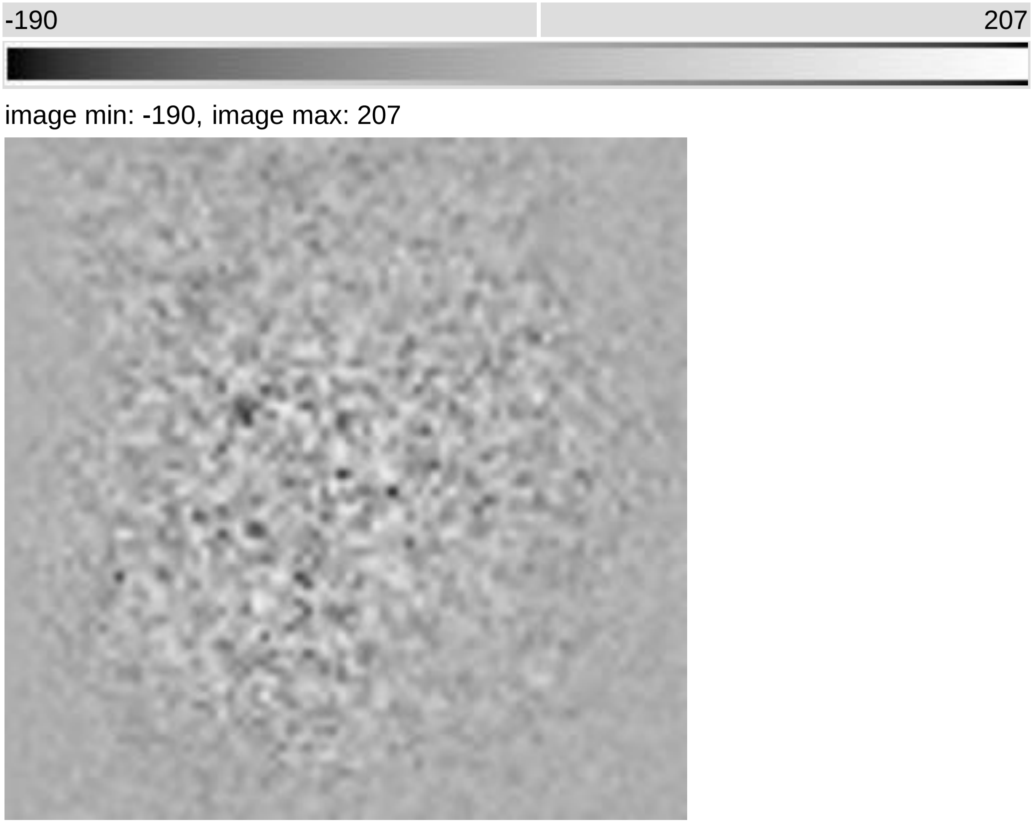

image min: -190, image max: 207

Figure 11

Mean image

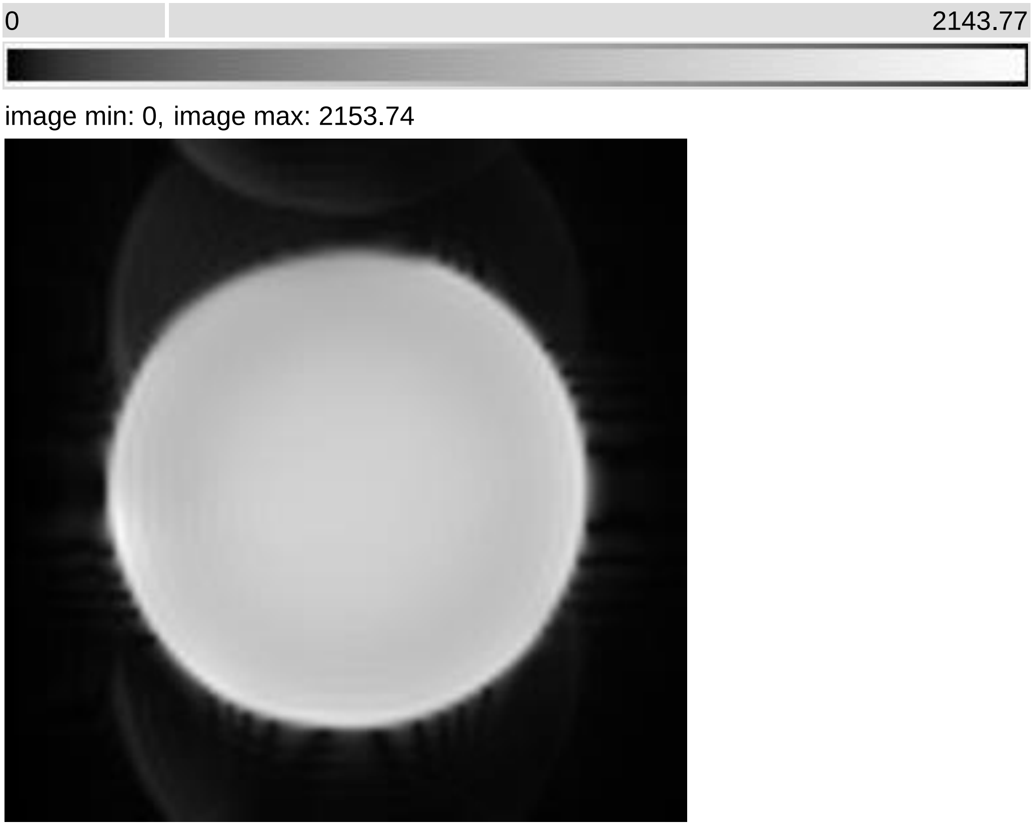

image min: 0, image max: 2153.74

Figure 12

Standard Deviation image

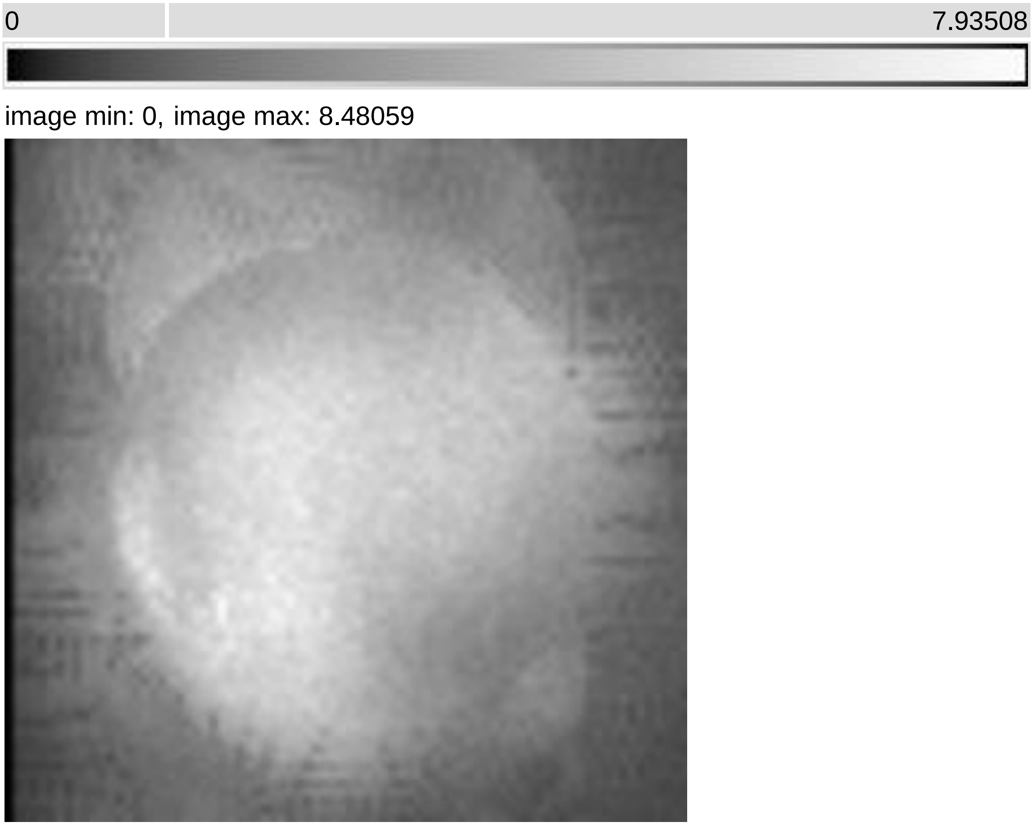

Figure 13

SFNR image

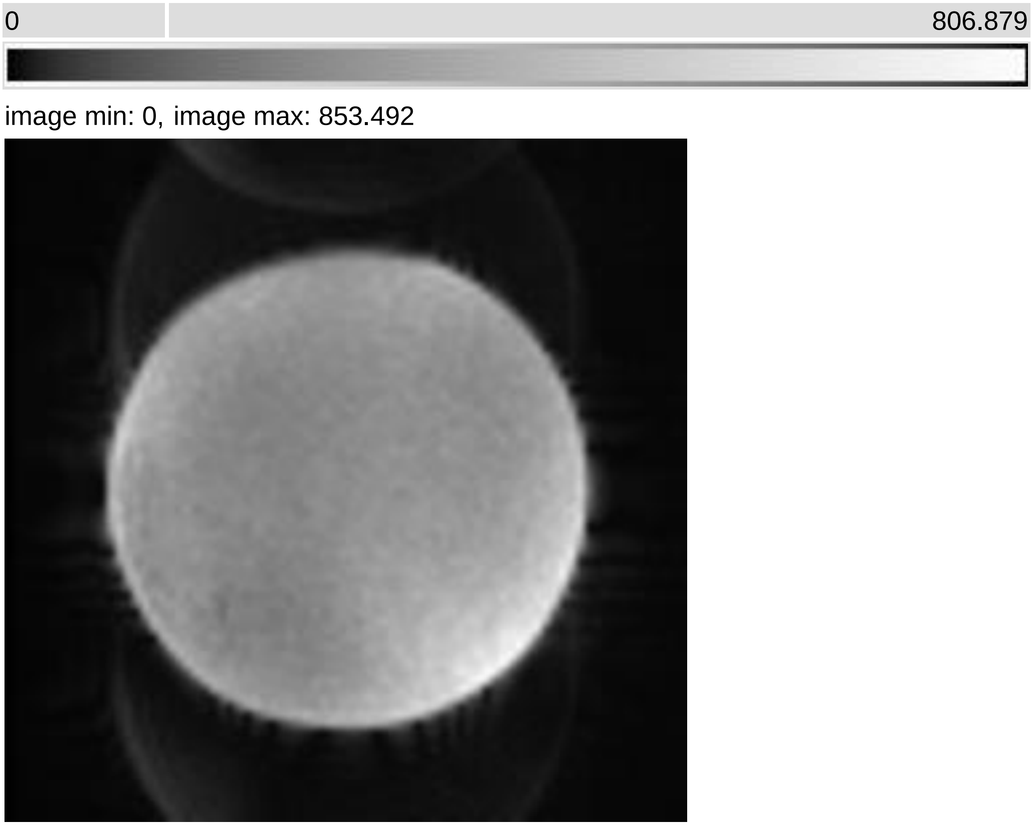

image min: 0, image max: 853.492

Figure 14

Acquisition parameters

dimensions	80x80x30x157
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scanner	AWP66112
psdname	%SiemensSeq%\ep2d_bold
examnumber	20
studyid	QA
seriesnumber	5
runnumber	1
scanningsequence	EP
sequencevariant	SK
magneticfield	3
description	BOLD_p2
scandate	2017-01-09
scantime	10:28:21
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	BOLD_p2 (BOLD_p2)

institutionaddress	Maynard 3,Hanover,NH,US,03755
institutionaldepartmentname	Department
scanoptions	FS
mracquisitiontype	2D
sequencename	*epfid2d1_80
angioflag	N
numaverages	1
imagingfrequency	123.252535
imagednucleus	1H
spacingbetweenslices	3.9900001720566
numphaseencodingsteps	79
echotrainlength	39
percentsampling	100
percentphasefieldofview	100
scannerserialnumber	66112
softwareversions	syngo MR E11
inplanephaseencodingdirection	COL
variableflipangleflag	N
sar	0.05572343375316
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