

Phantom QA Results: 32 CH

Date:09/12/2016

Dartmouth Brain Imaging Center (DBIC)

Measurement	Value	Comments
Signal-to-Noise Ratio (SNR)	220.7	
Signal-to-Fluctuation-Noise ratio (SFNR)	196.7	
Radius of Decorrelation (RDC) (fig 3)	8.6	
Drift (fig 1)	0.27	
Percent Fluctuation (fig 1)	0.06	
Fourier analysis of the residuals (fig 2)	<3	Feature is present
Ghost Mean Percentage (fig 10)	1.84%	Better than the recommended level (3% <) in ref 2:

Table 1: Key measurements

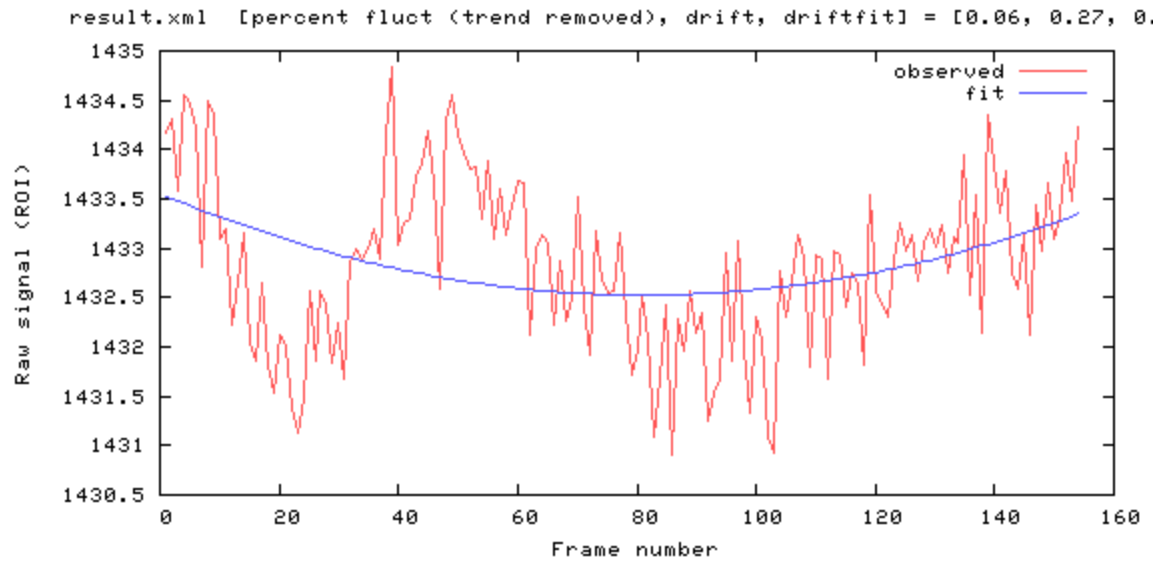


Figure 1

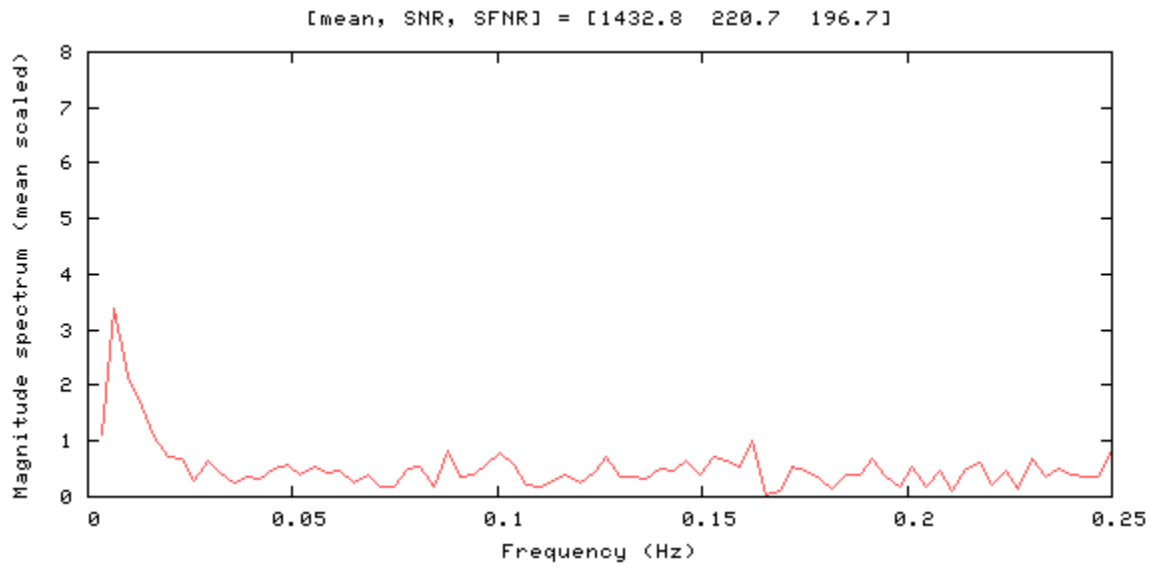


Figure 2

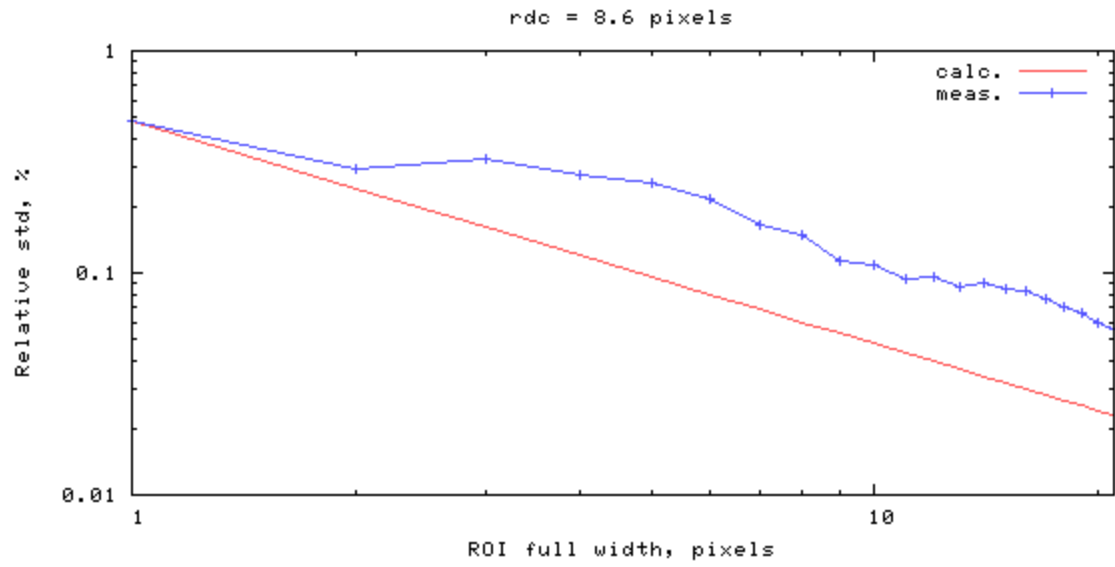


Figure 3

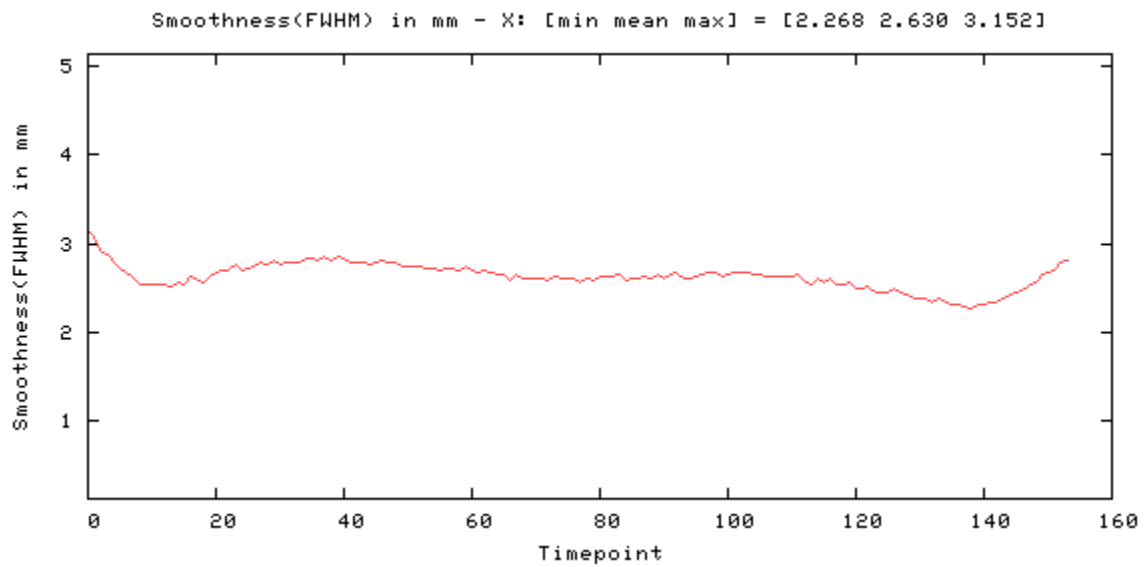


Figure 4

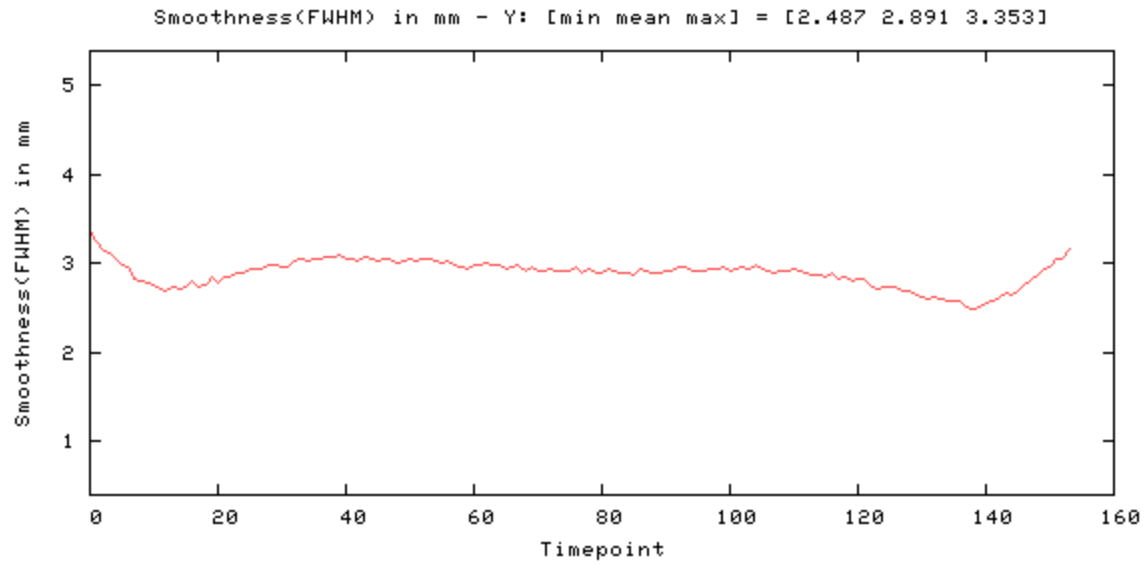


Figure 5

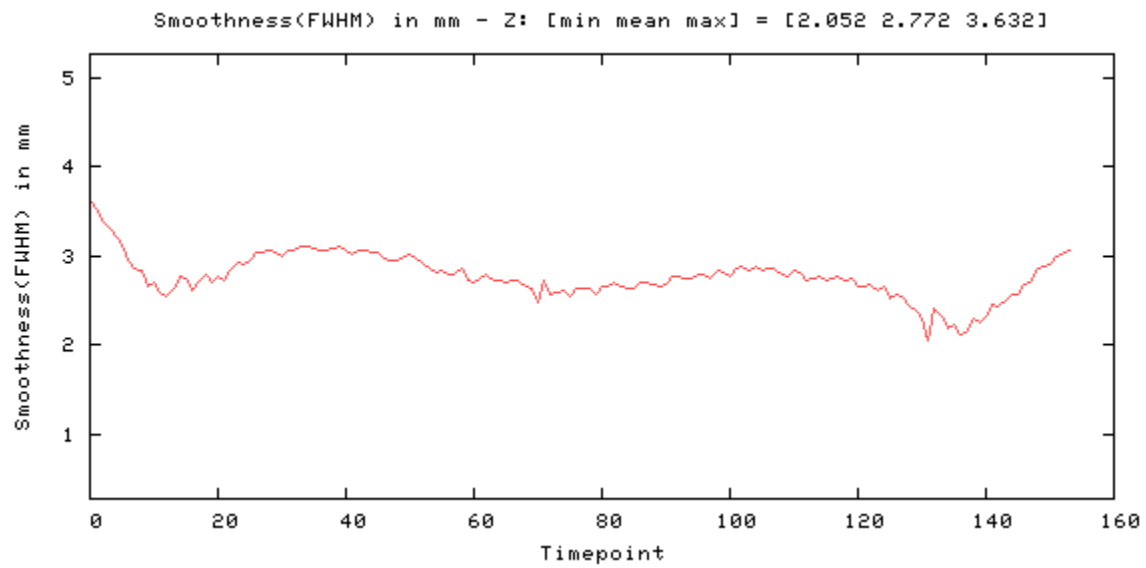


Figure 6

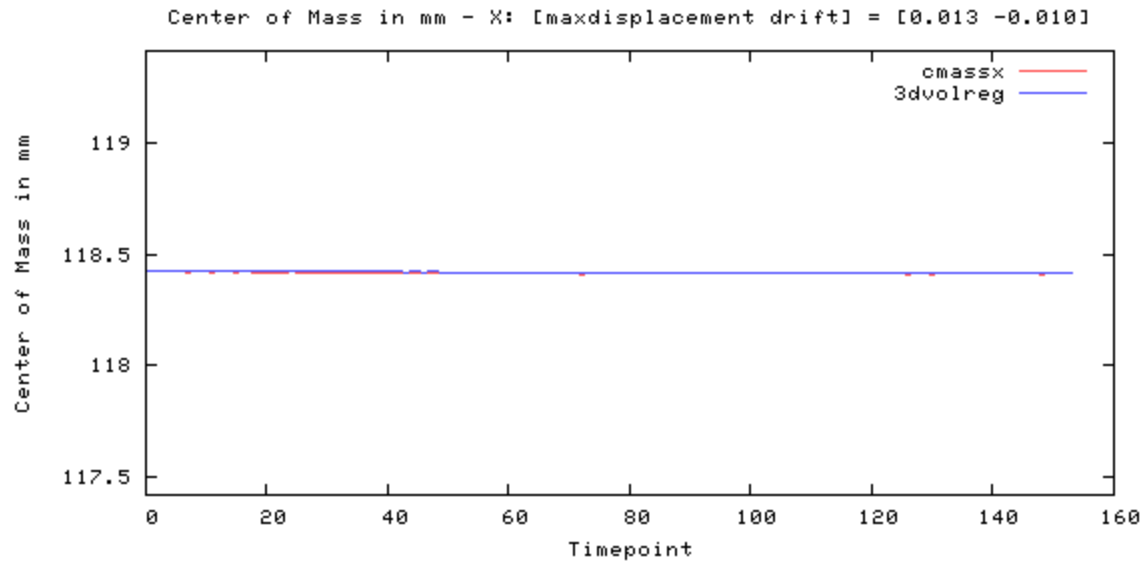


Figure 7

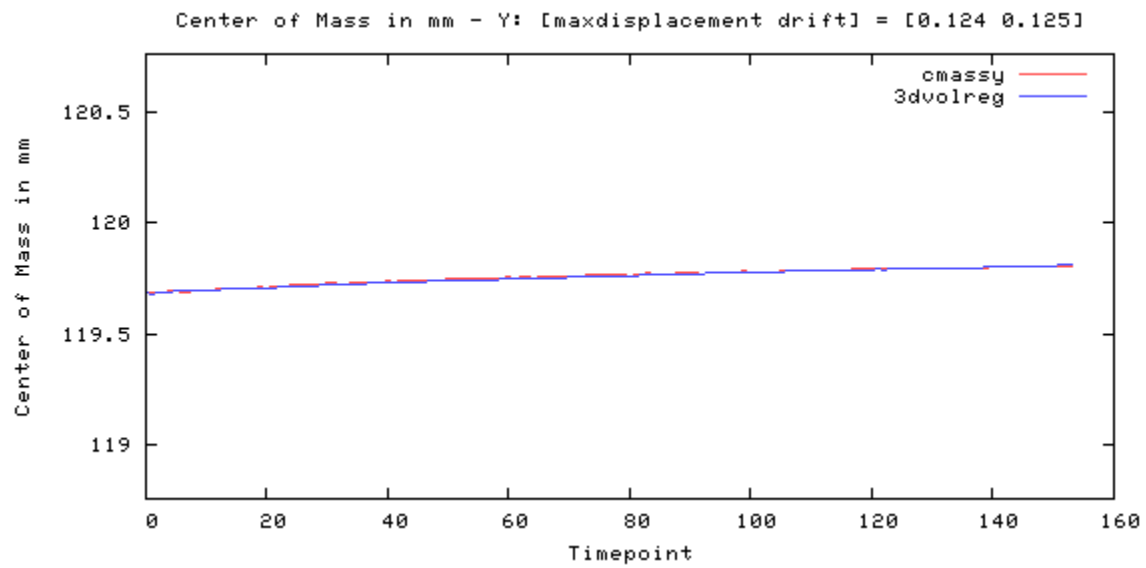


Figure 8

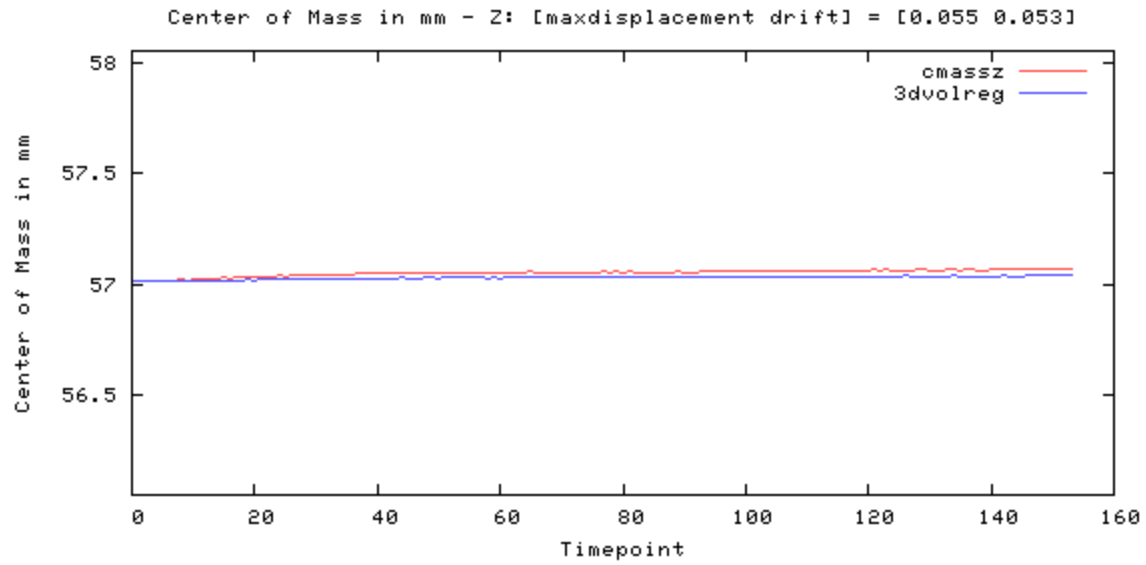


Figure 9

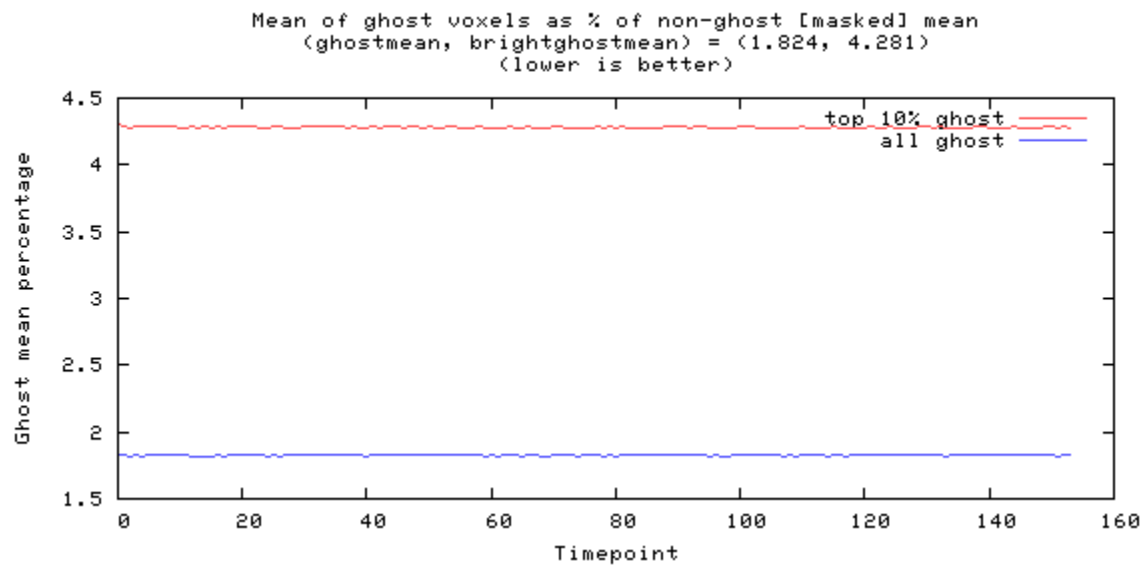


Figure 10

Odd-even difference image



image min: -244, image max: 304

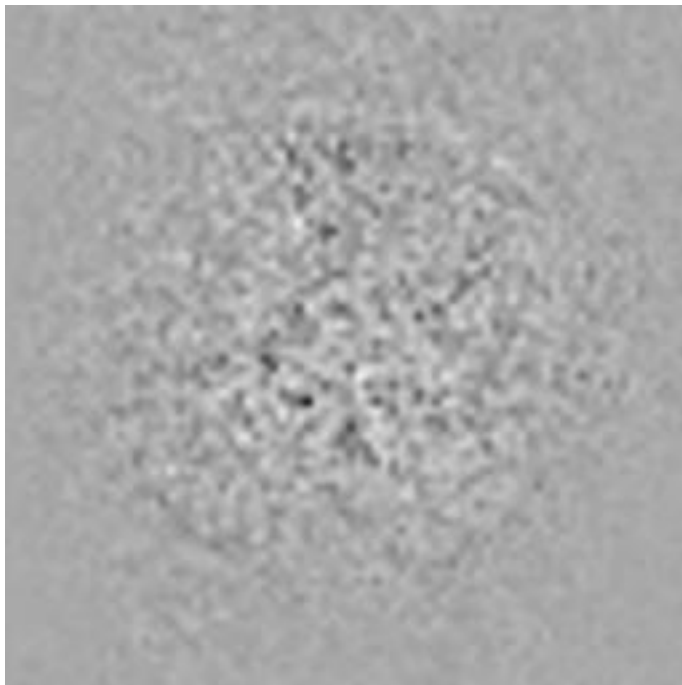


Figure 11

Mean image



image min: 0, image max: 2027.4

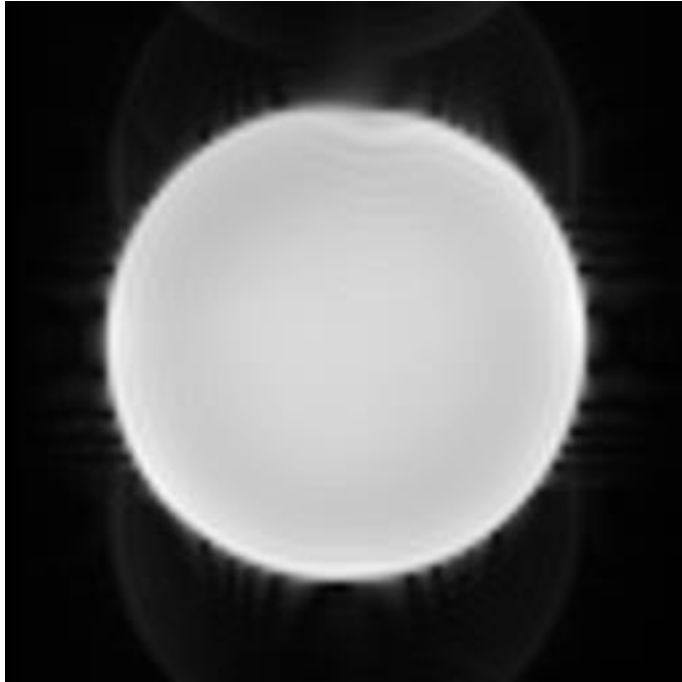


Figure 12

Standard Deviation image



image min: 0, image max: 21.771

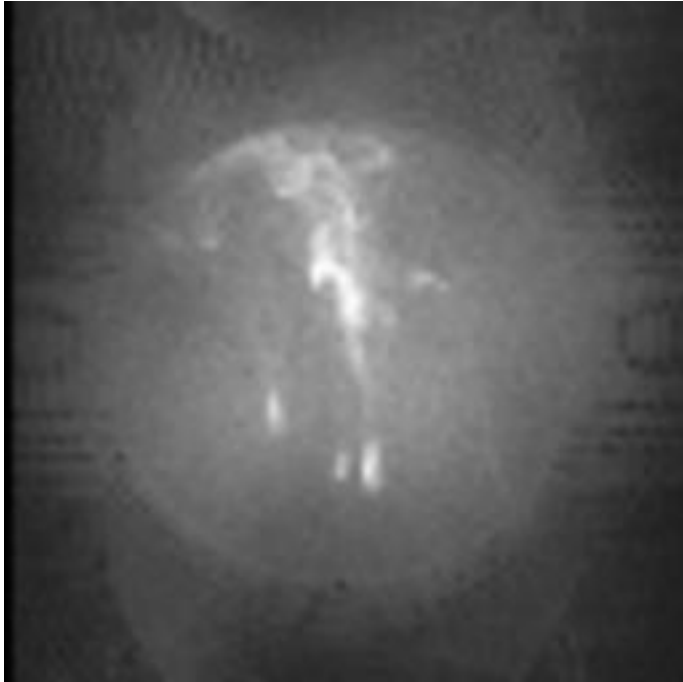


Figure 13

SFNR image



image min: 0, image max: 808.603

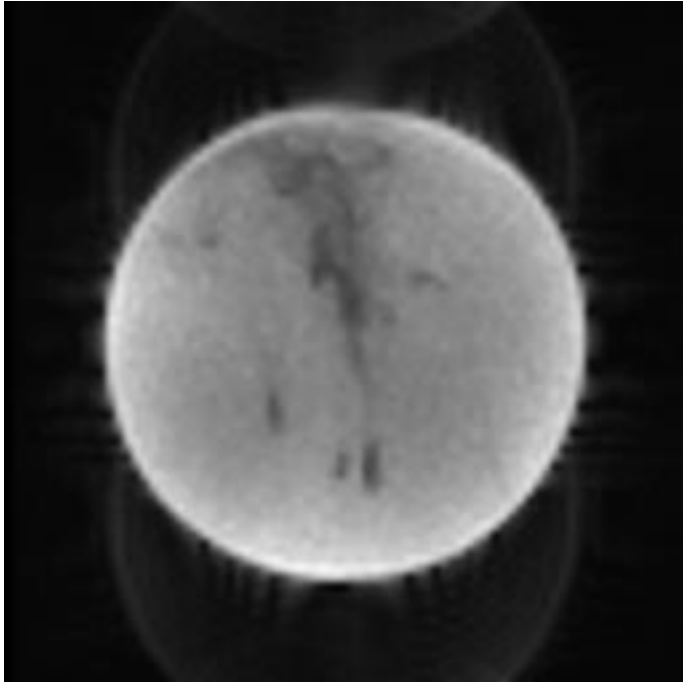


Figure 14

Acquisition parameters

dimensions	80x80x30x157
spacing	3mmx3mmx3.99mmx2000ms
gap	0mmx0mmx0.49mmx0ms
scanner	AWP66112
psdname	%SiemensSeq%\ep2d_bold
examnumber	2
studyid	091216
seriesnumber	5
runnumber	1
scanningsequence	EP
sequencevariant	SK
magneticfield	3
description	ep2d_bold_moco_p2_3mm
scandate	2016-09-12
scantime	14:47:06
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	QA^QA
scanner	AWP66112
scannermanufacturer	SIEMENS
scannermodelname	Prisma
fieldofview	240 240
psdname	%SiemensSeq%\ep2d_bold
protocolname	ep2d_bold_moco_p2_3mm (ep2d_bold_moco_p2_3mm)

institutionaddress	Maynard 3,Hanover,NH,US,03755
institutionaldepartment name	Department
scanoptions	FS
mracquisitiontype	2D
sequencename	*epfid2d1_80
angioflag	N
numaverages	1
imagingfrequency	123.252572
imagednucleus	1H
spacingbetweenslices	3.9900000089403
numphaseencodingsteps	79
echotrainlength	39
percentsampling	100
percentphasefieldofview	100
scannerserialnumber	66112
softwareversions	syngo MR E11
inplanephaseencoding direction	COL
variableflipangleflag	N
sar	0.04658417103414
dBdt	0
acquisitionnumber	1
instancenumber	1
imagecomments	QA
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