

# Phantom QA Results: 32 CH

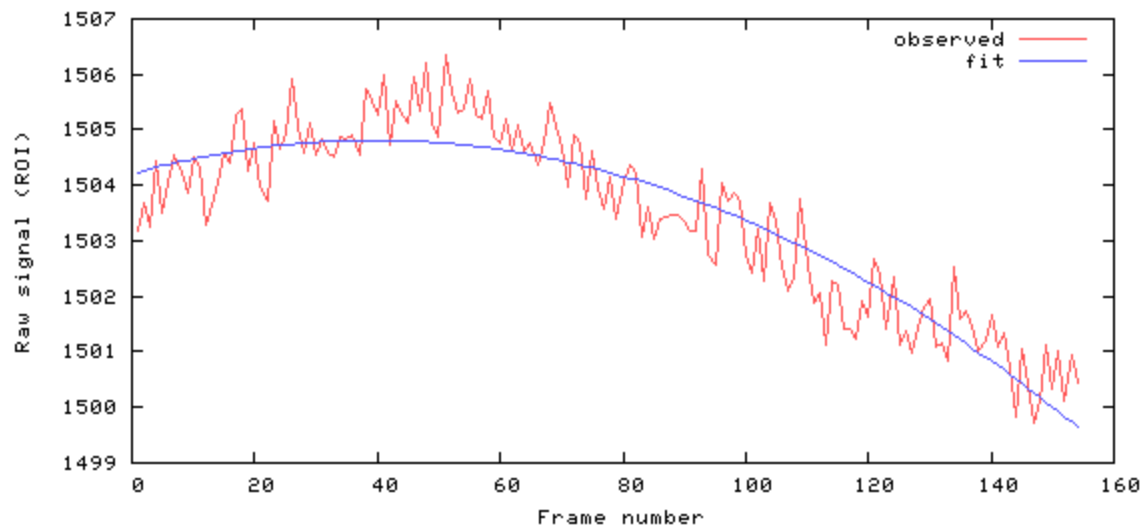
**Date:02/13/2017**

**Dartmouth Brain Imaging Center (DBIC)**

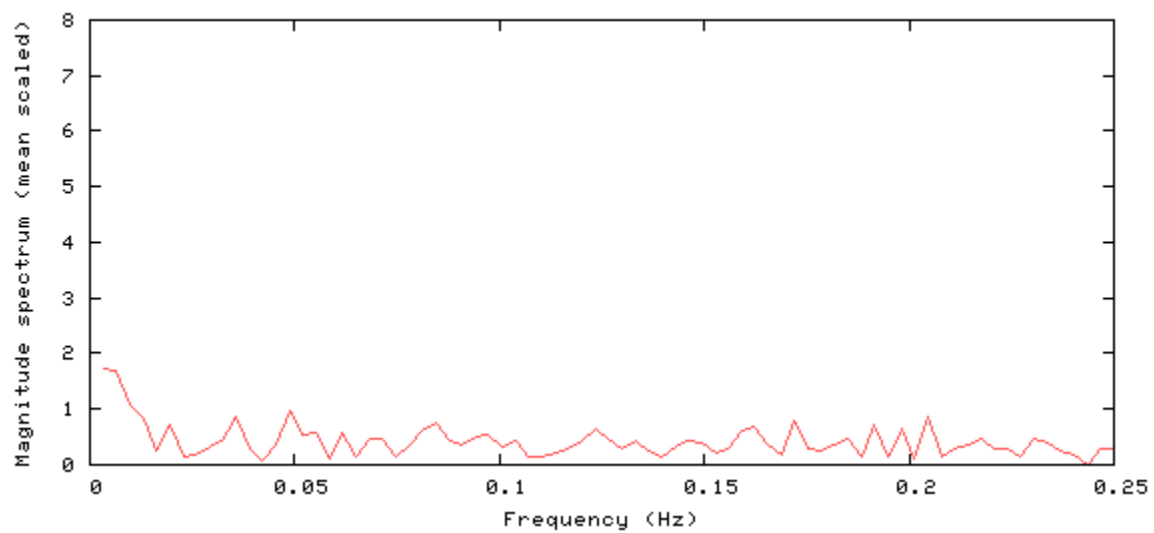
Measurement	Value	Comments
Signal-to-Noise Ratio (SNR) (fig 2)	270.7	
Signal-to-Fluctuation-Noise ratio (SFNR) (fig 2)	265	
Radius of Decorrelation (RDC) (fig 3)	9.1	
Drift (fig 1)	0.44	
Percent Fluctuation (fig 1)	0.04	
Fourier analysis of the residuals (fig 2)	<2	
Ghost Mean Percentage (fig 10)	2.05%	Better than the recommended level (3% < ) in ref 2:

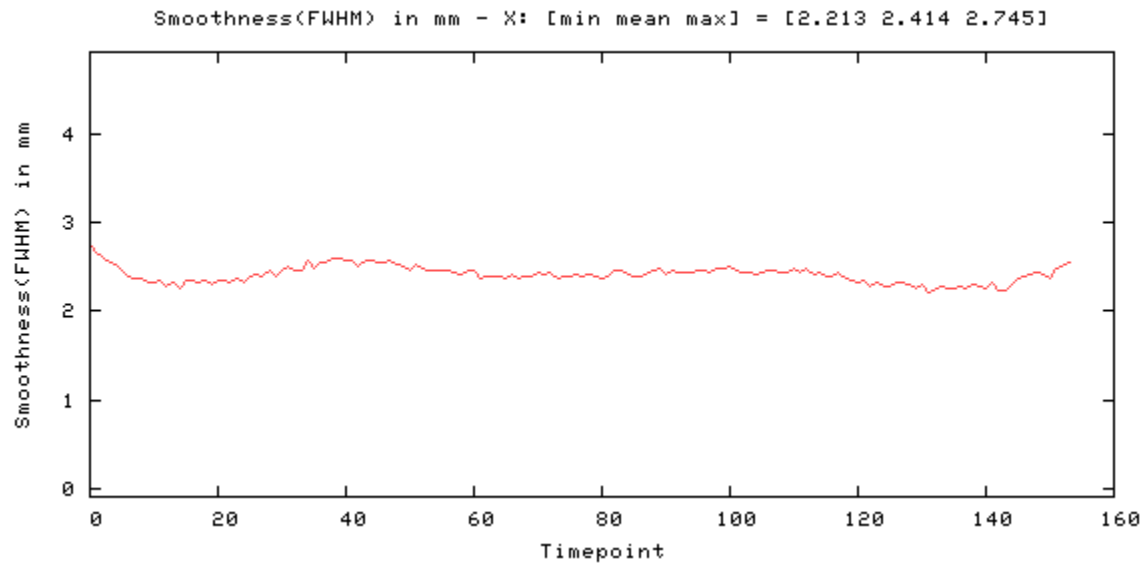
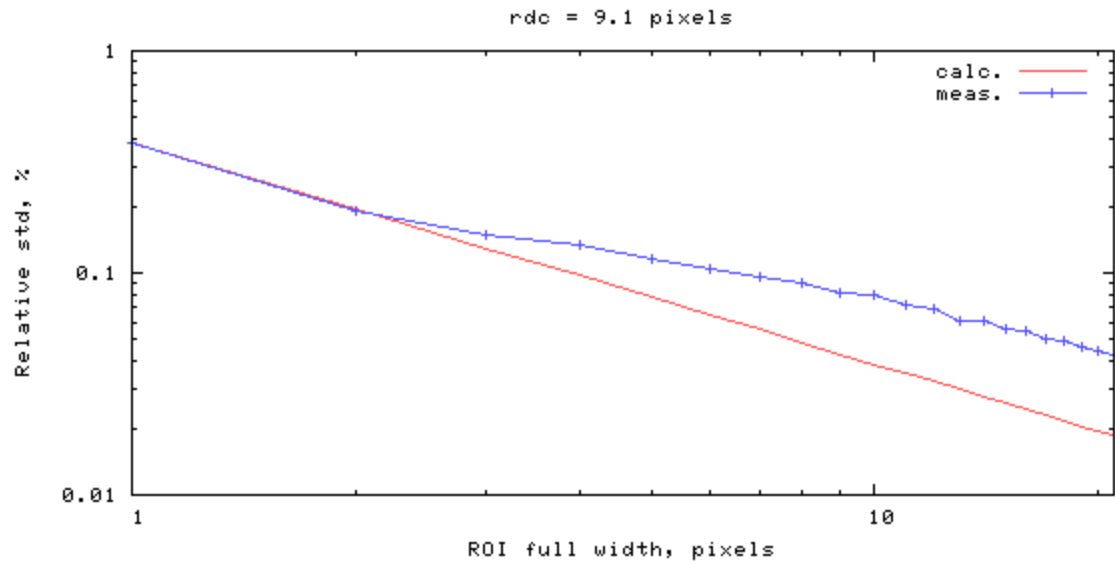
Table 1: Key measurements

result.xml [percent fluct (trend removed), drift, driftfit] = [0.04, 0.44, 0.0]

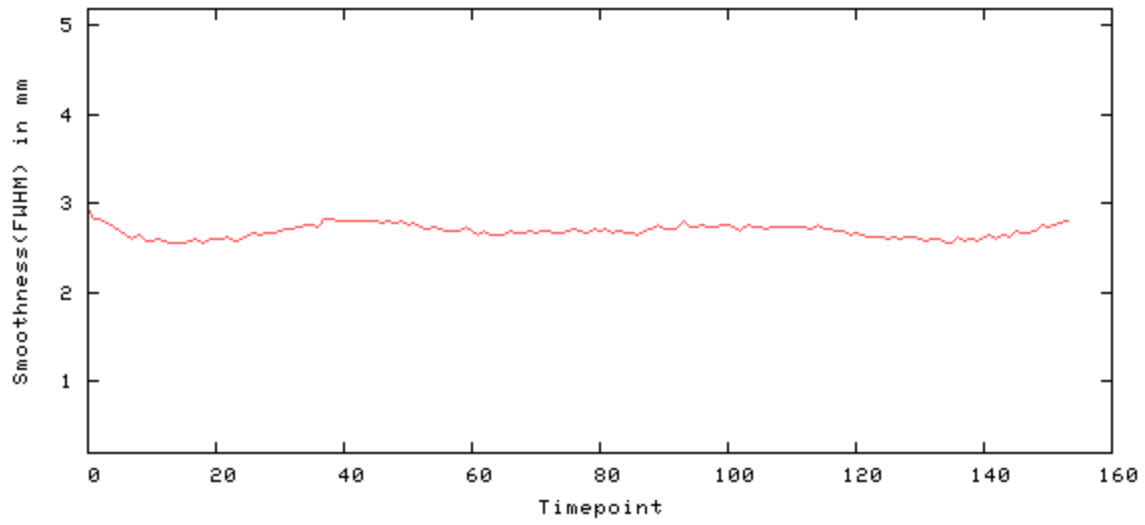


[mean, SNR, SFNR] = [1503.5 270.7 265.0]

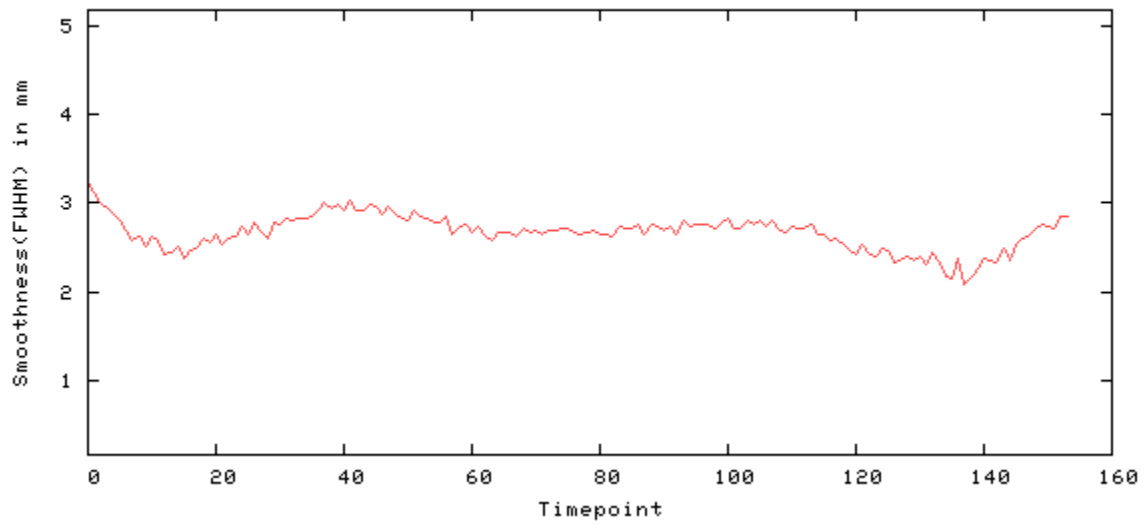




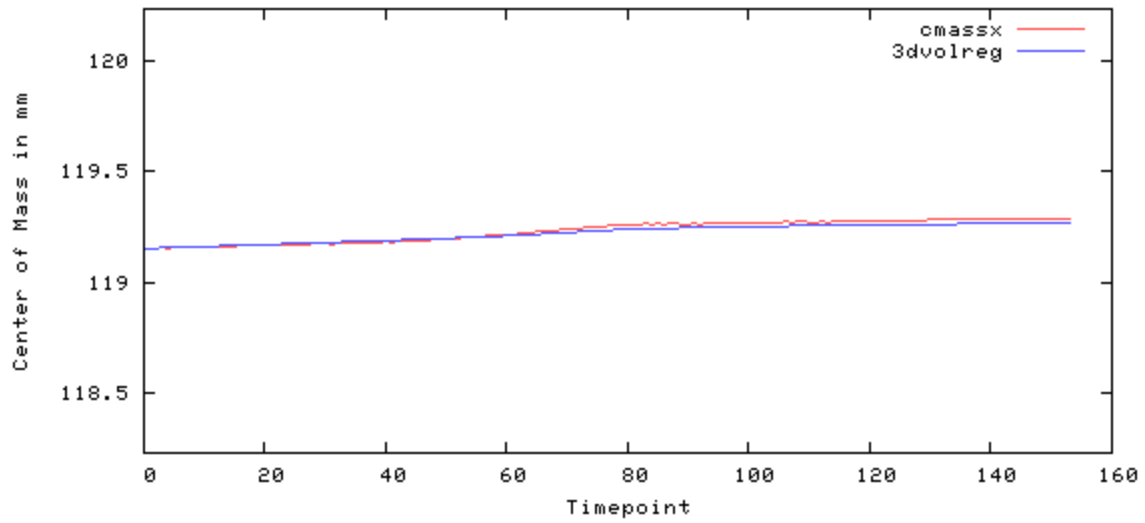
Smoothness(FWHM) in mm - Y: [min mean max] = [2.544 2.690 2.946]



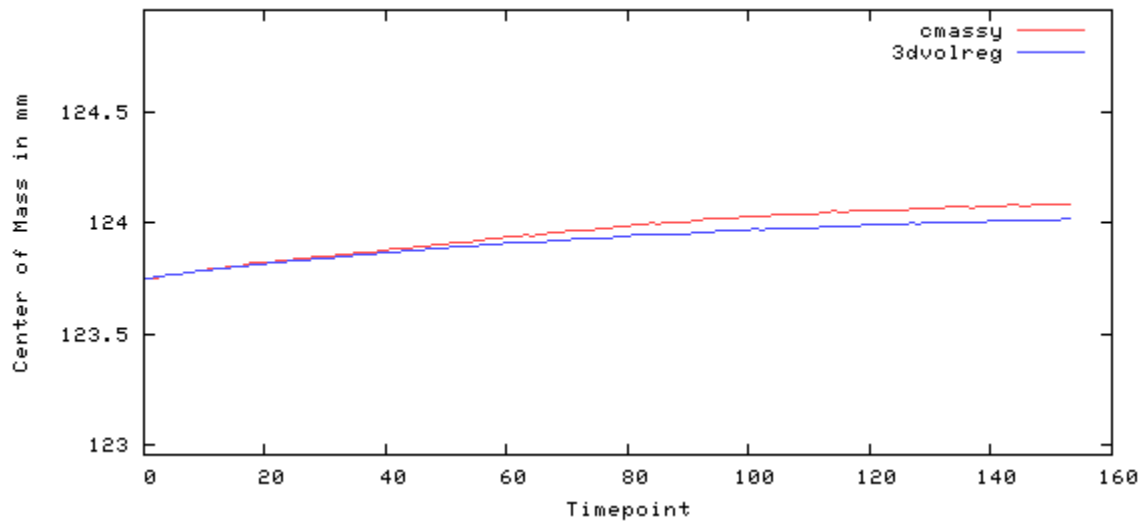
Smoothness(FWHM) in mm - Z: [min mean max] = [2.095 2.672 3.246]

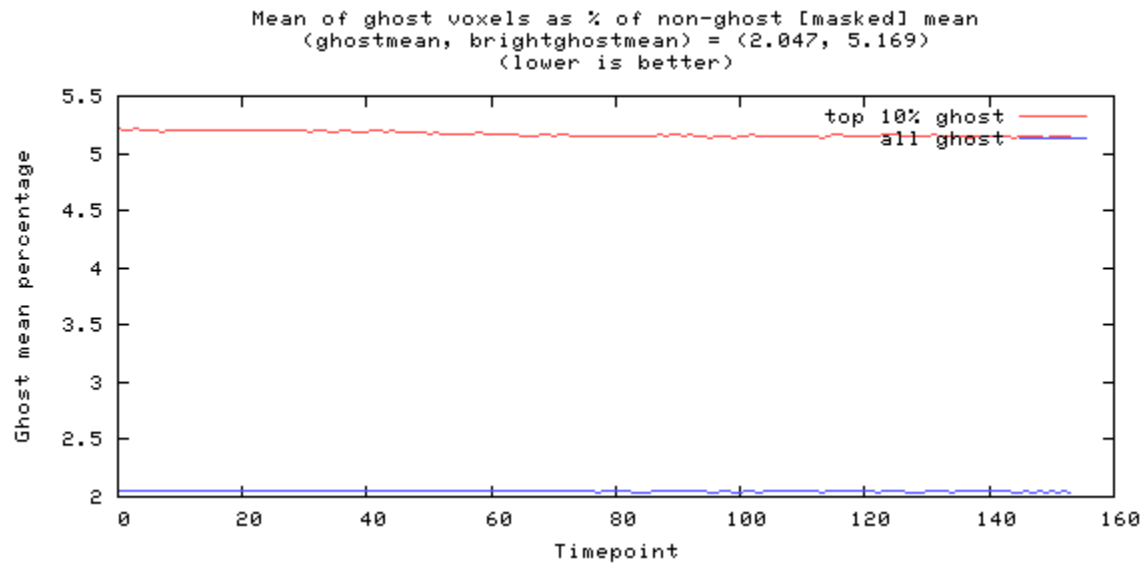
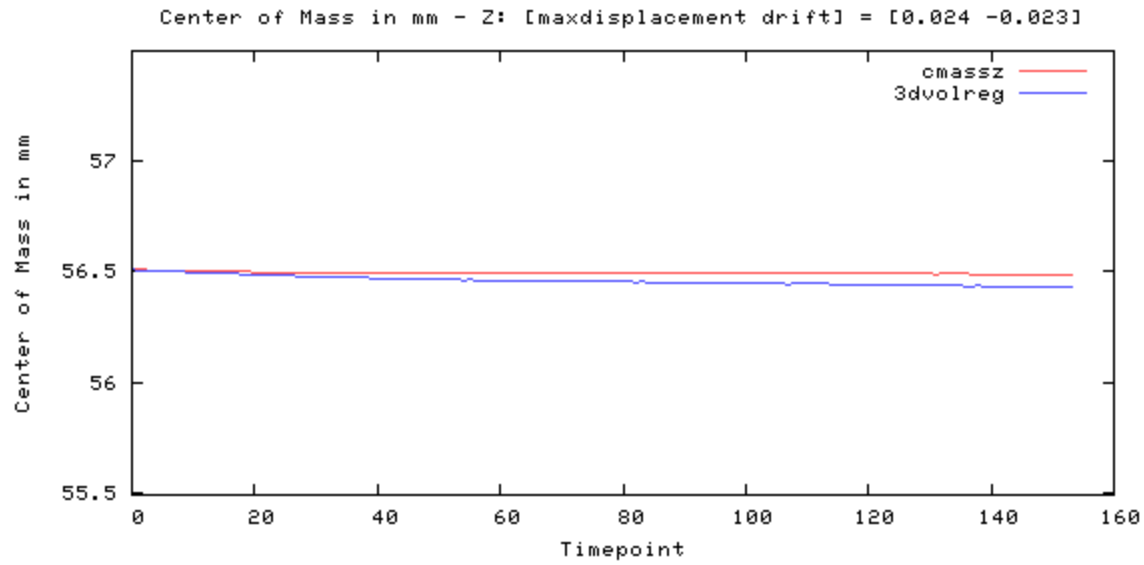


Center of Mass in mm - X: [maxdisplacement drift] = [0.138 0.135]



Center of Mass in mm - Y: [maxdisplacement drift] = [0.338 0.338]

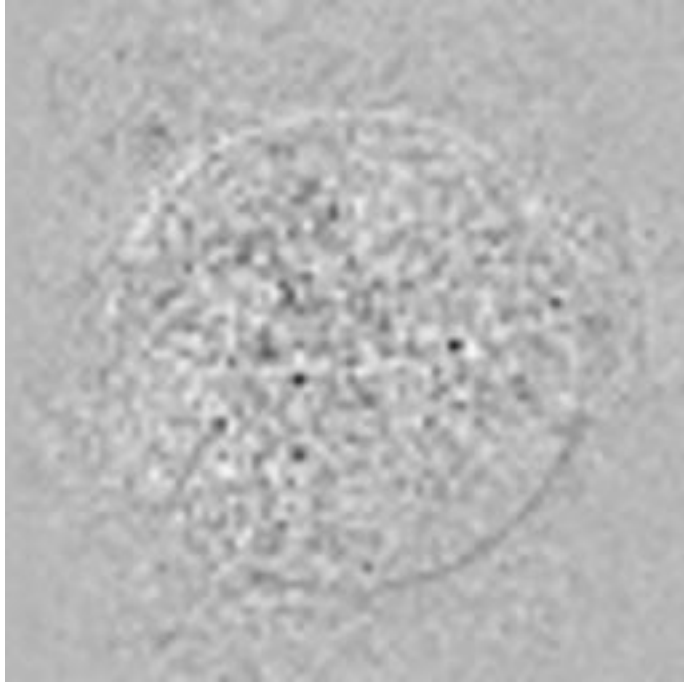




## Odd-even difference image



image min: -296, image max: 202

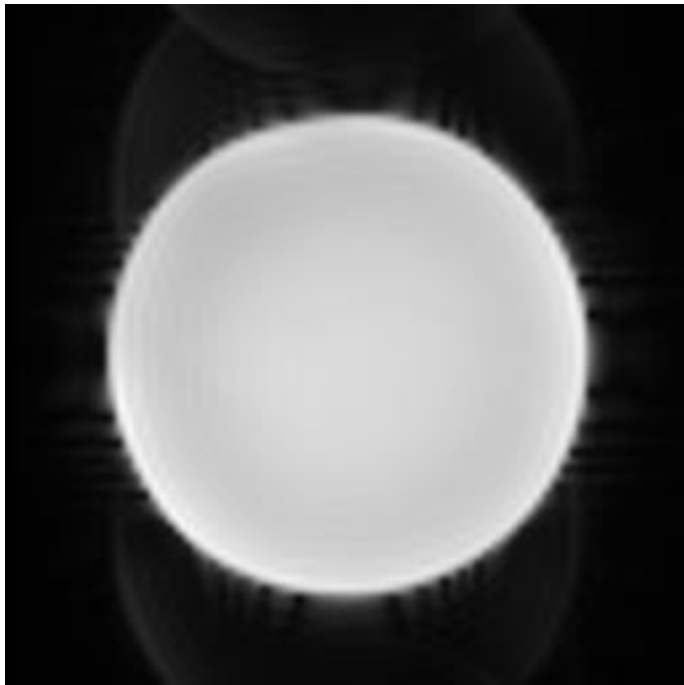


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## Mean image



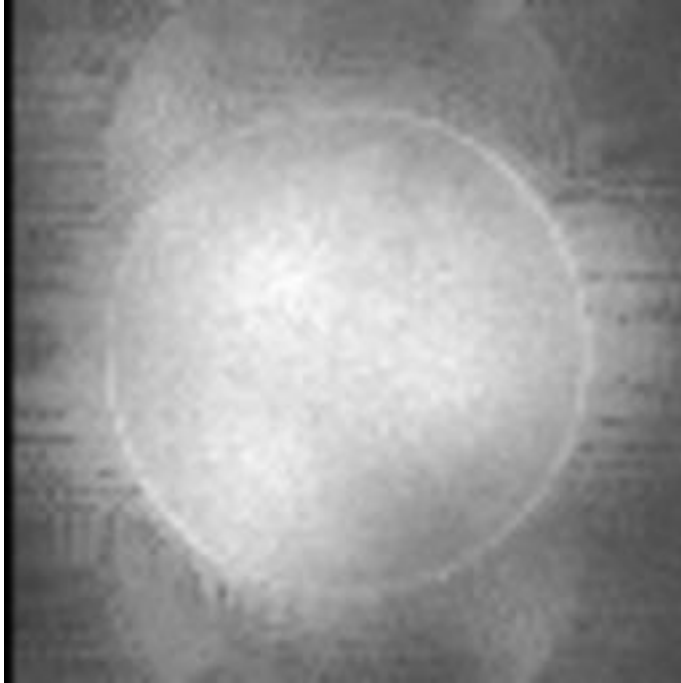
image min: 0, image max: 2156.4



## Standard Deviation image



image min: 0, image max: 7.48563

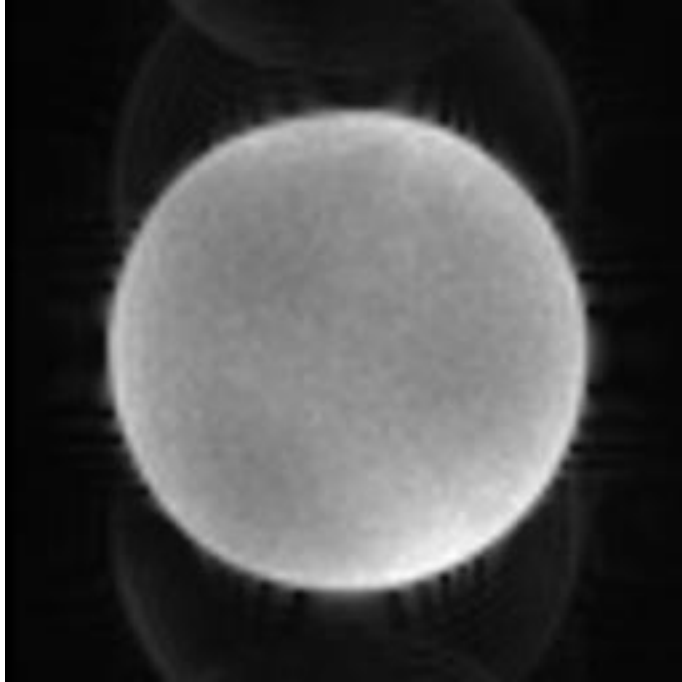


## SFNR image



image min: 0, image max: 889.772





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## Acquisition parameters

dimensions	80x80x30x157
spacing	3mmx3mmx3.99mmx2000ms
gap	0mmx0mmx0.49mmx0ms
scanner	AWP66112
psdname	%SiemensSeq%\ep2d_bold
examnumber	30
studyid	QA
seriesnumber	5
runnumber	1
scanningsequence	EP
sequencevariant	SK
magneticfield	3
description	BOLD_p2
scandate	2017-02-13
scantime	09:14:23
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
institutionaldepartment name	Department
scanoptions	FS
mracquisitiontype	2D
sequencename	*epfid2d1_80
angioflag	N
numaverages	1
imagingfrequency	123.252545
imagednucleus	1H
spacingbetweenslices	3.9899999920534
numphaseencodingsteps	79
echotrainlength	39
percentsampling	100
percentphasefieldofview	100
scannerserialnumber	66112
softwareversions	syngo MR E11
inplanephaseencoding direction	COL
variableflipangleflag	N

sar	0.04770057325337
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](https://www.nitrc.org/projects/bxh_xcede_tools)