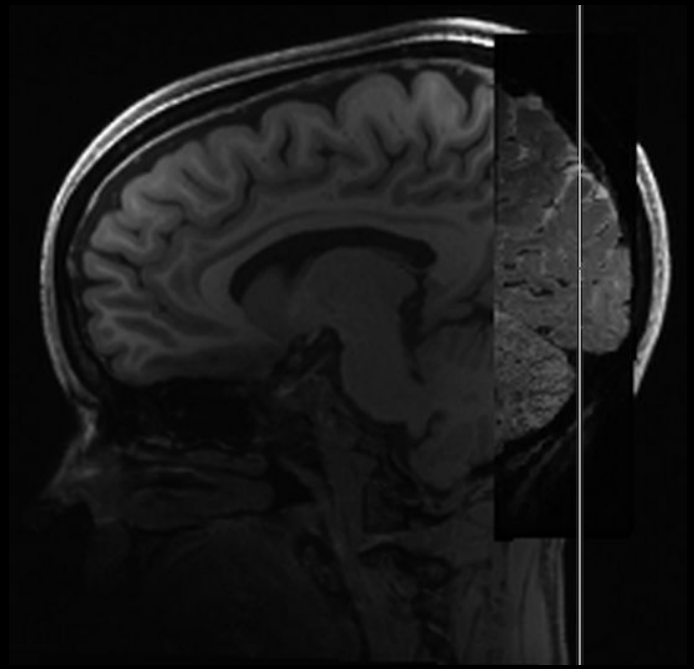
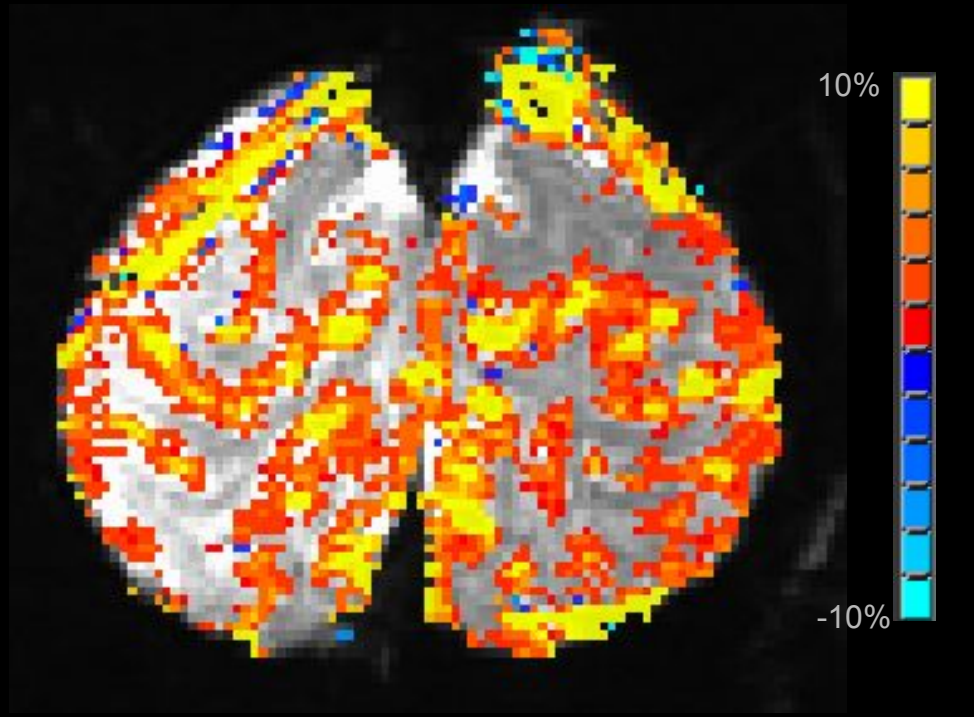
Whatever gives me (lots of) good signal



0.8 mm 2D GE EPI, coronal slices, R/L read-out
56 slices, MB=2, R=3, partial Fourier=6/8
echo-spacing=1.01 ms, total read-out time = 41 ms



Block design scans (8), each 12s visual stim/12s rest for 4 min.
GLM analysis; color overlay is % signal change
Voxel-wise $p < 0.001$, cluster-wise $p < 0.001$.

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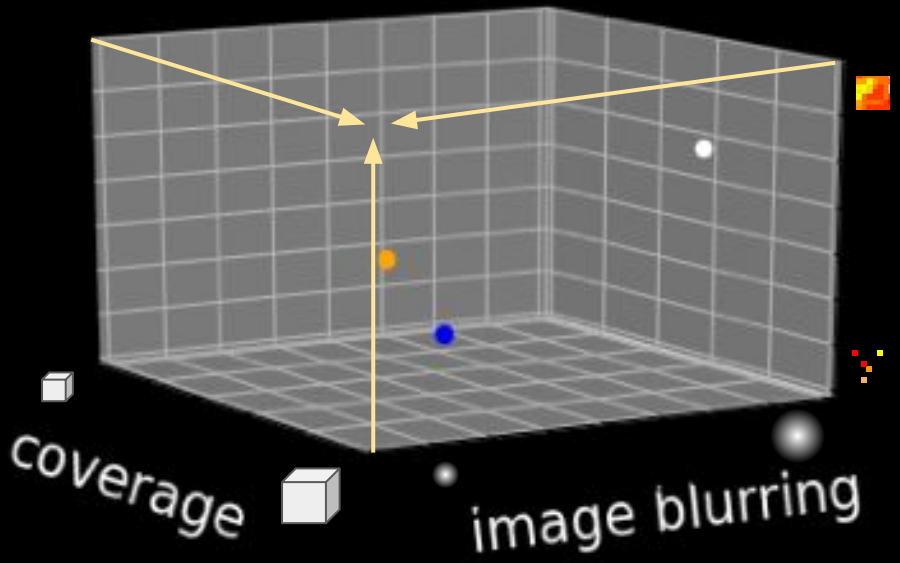
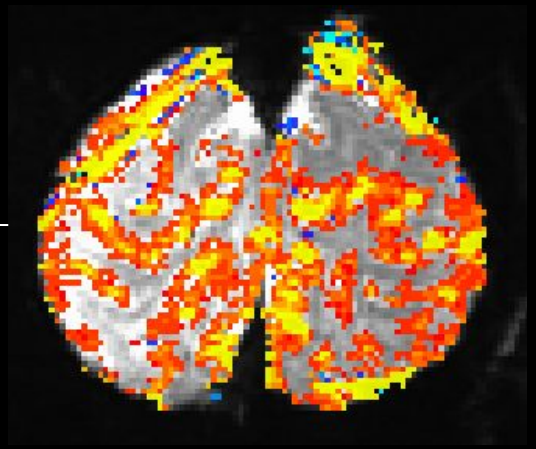


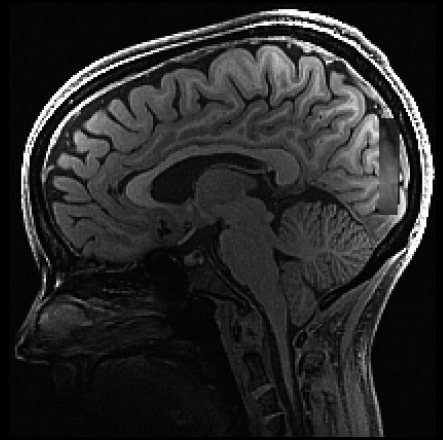
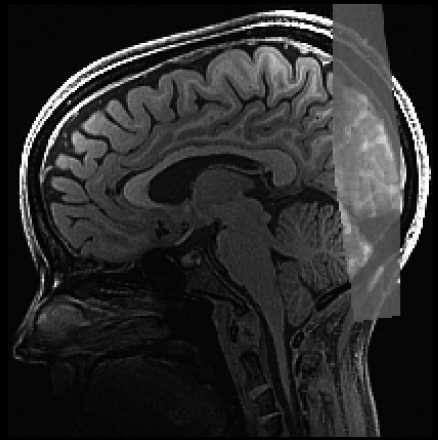
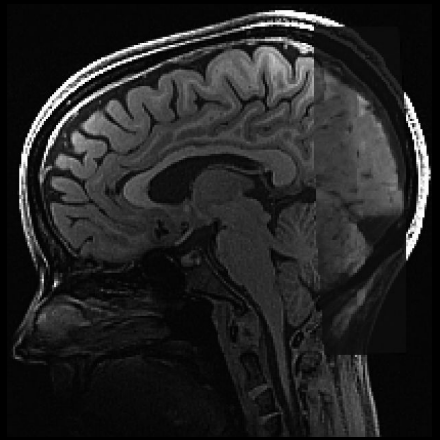
CNR

?



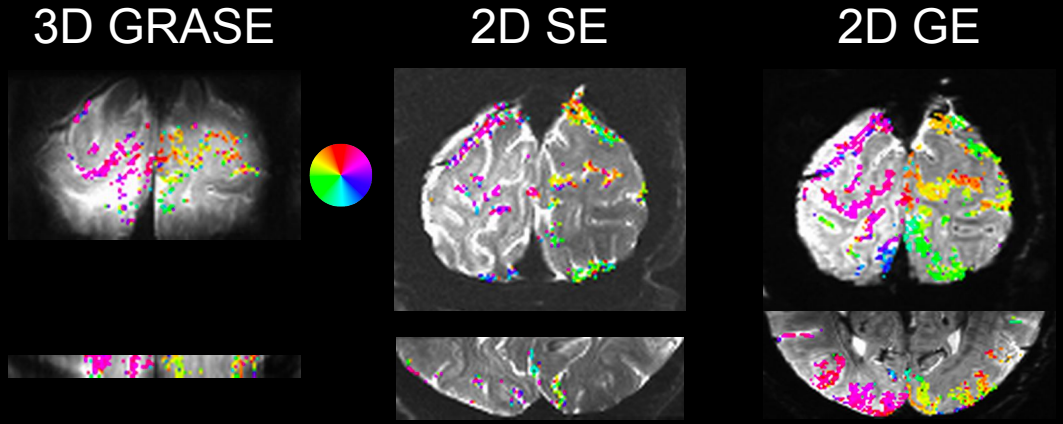
Whatever gives me good coverage

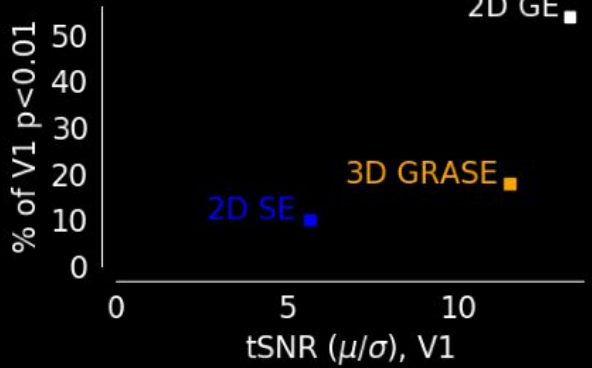
Coverage per unit time with 0.8 mm slices

	3D GRASE	2D SE	2D GE
			
	12 or 16 slices / 2 s	36 slices / 3s	>36 slices / 2s
Limiting factor:	Image read-out	SAR	Acoustic noise

Whatever gives me the best functional contrast

SNR is relatively easy to quantify; contrast-to-noise ratio is *not*





4 x 4-min. pRF mapping scans; AFNI pRF analysis tool.
Single-voxel p > 0.01; cluster p < 0.001.
Quantification of % sig restricted to common region of V1 gray matter, sgl subj

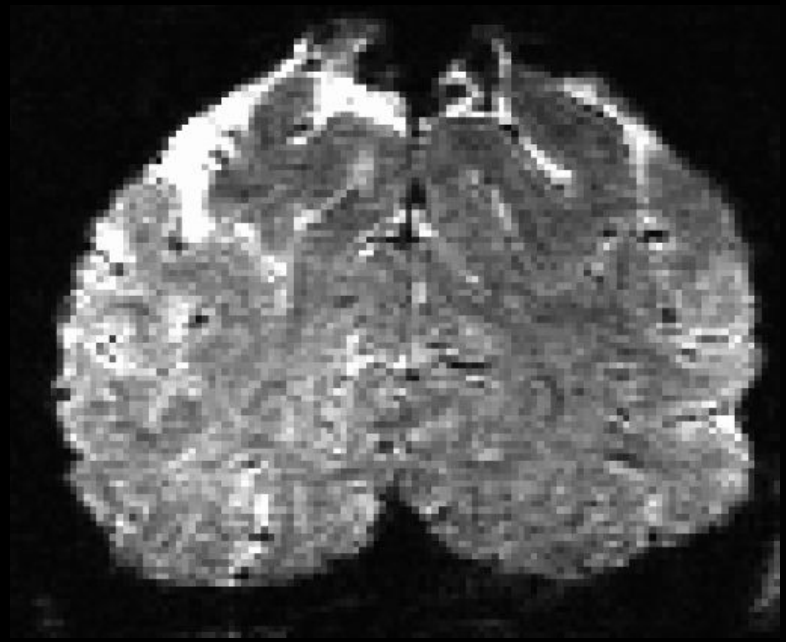
Whatever gives me the least blurring

Nominal resolution: 0.8 mm

True resolution?

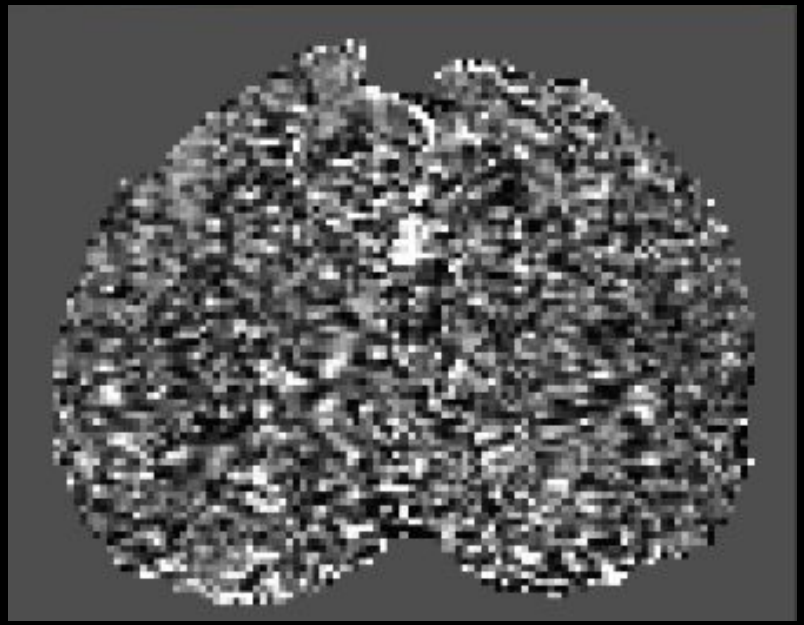
Image resolution: acquisition blurring

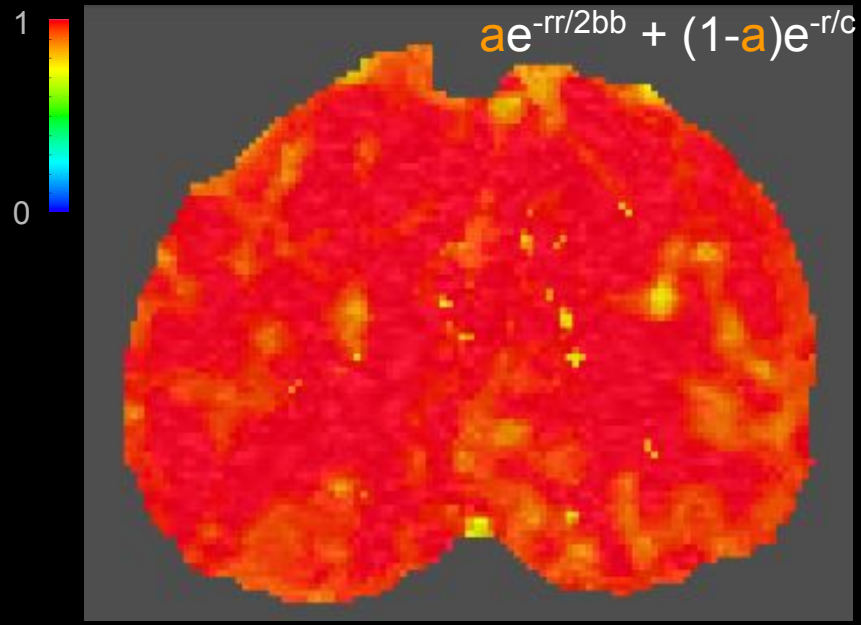
Effective resolution: image resolution + physiological blurring



Whatever gives me the least blurring

Fit residuals from GLM to determine spatial autocorrelation of noise (AFNI 3dLocalACF)





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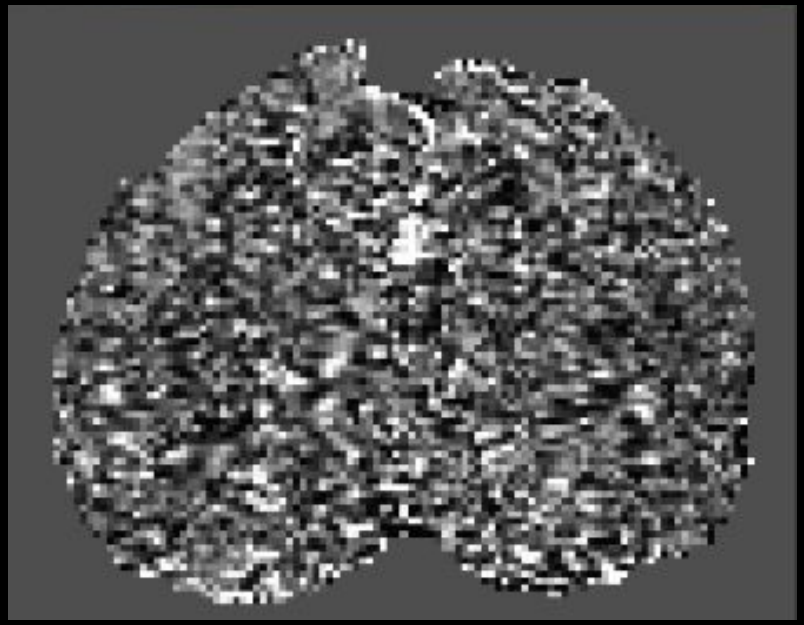
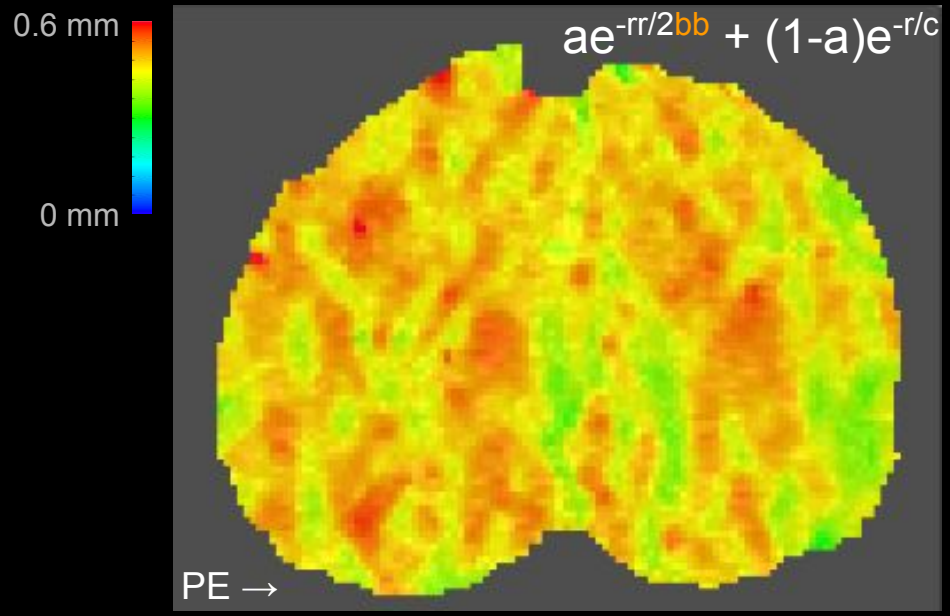
Whatever gives me the least blurring

Fit residuals from GLM to determine spatial autocorrelation of noise (AFNI 3dLocalACF)





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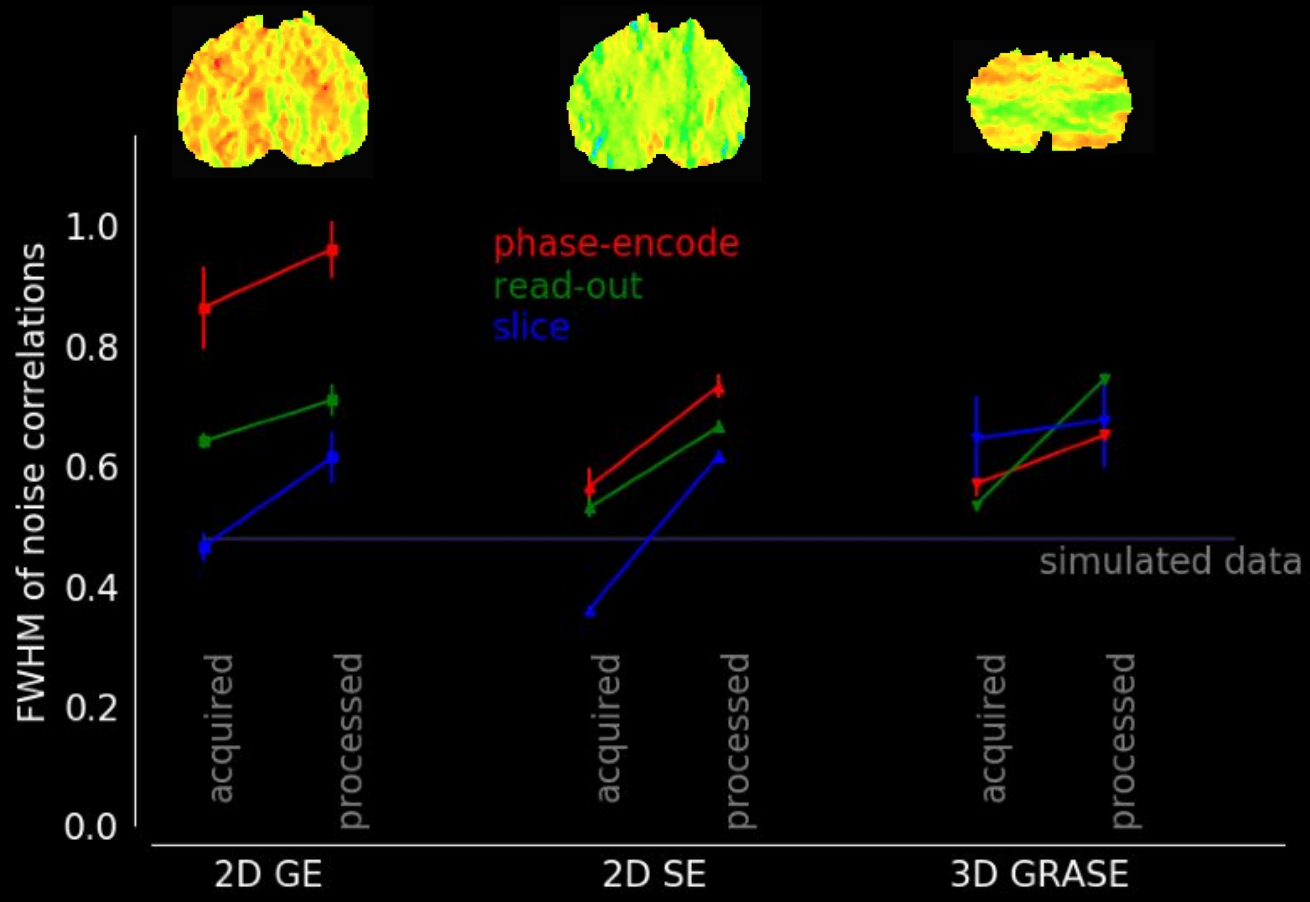
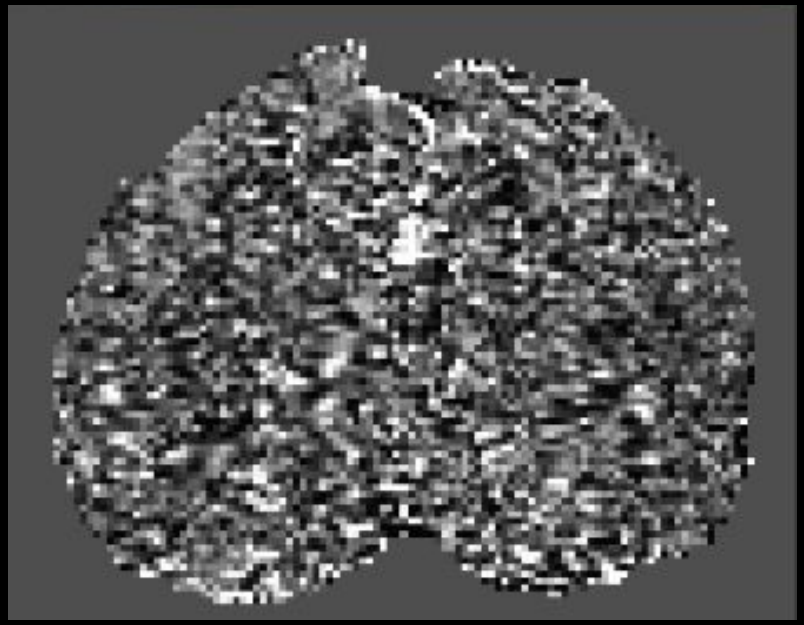


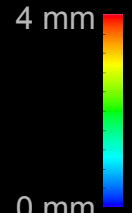
The “classic” Gaussian FWHM is a useful metric of *image* resolution.

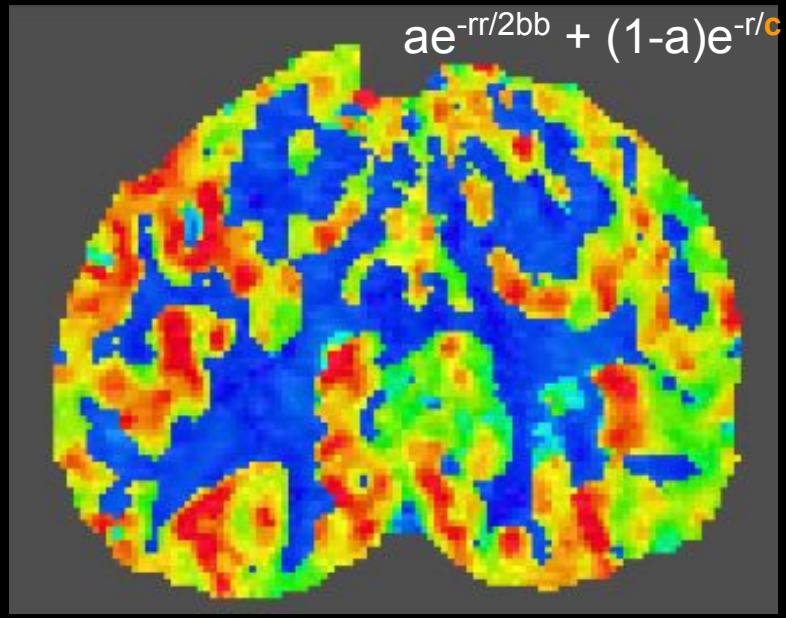
Theoretical minimum (IID noise)

Whatever gives me the least blurring

Fit residuals from GLM to determine spatial autocorrelation of noise (AFNI 3dLocalACF)







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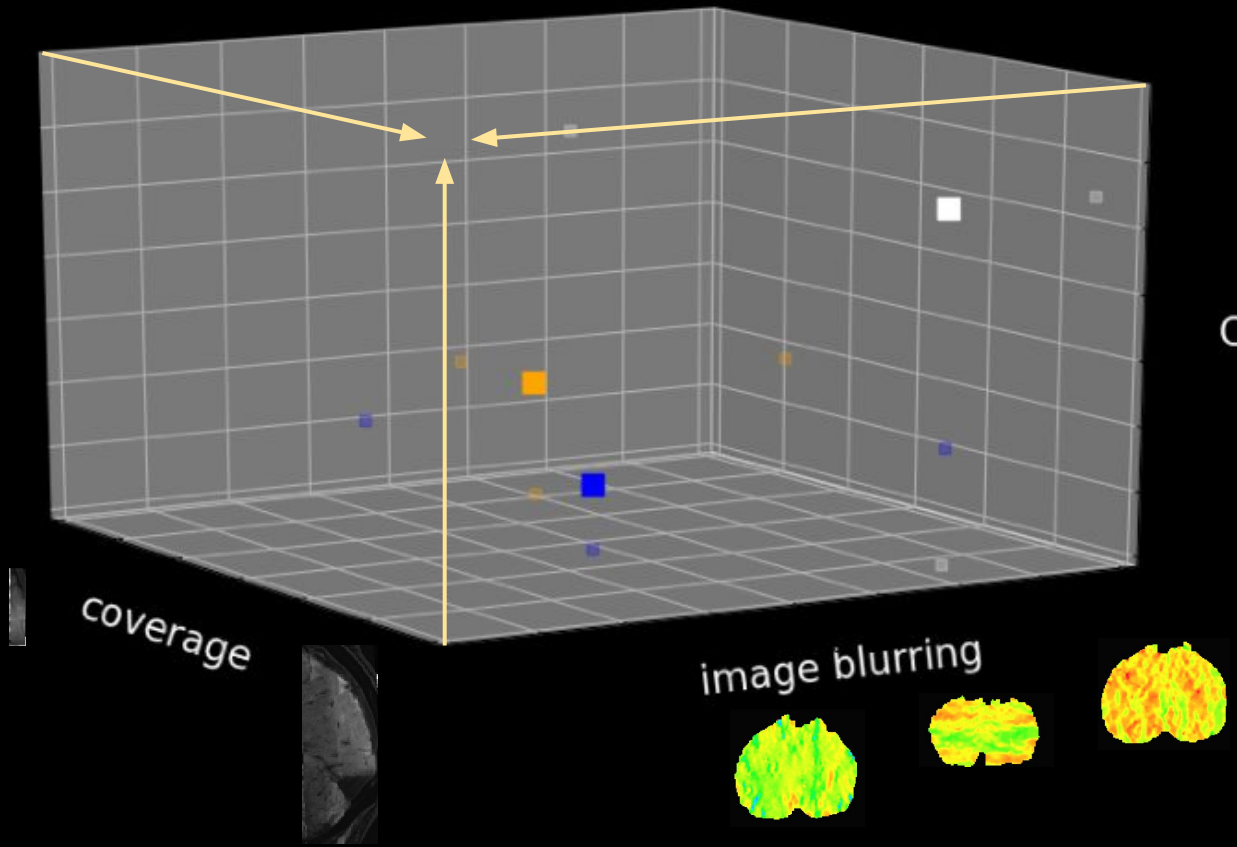

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