Predicting RMSE of Estimated Motion

Main Effects of Denoising, Number of Directions, and Percent Motion, including interactions with Shell Scheme Type

Characteristic	Translation			Rotation		
	Beta	95% CI[1]	p-value	Beta	95% CI[1]	p-value
(Intercept)	0.528	0.487, 0.569	**<0.001**	1.125	1.019, 1.231	**<0.001**
Scheme Type						
Shelled	—	—		—	—	
Non-Shelled	0.115	0.068, 0.161	**<0.001**	-0.278	-0.398, -0.157	**<0.001**
N. Directions	-0.001	-0.001, -0.001	**<0.001**	-0.004	-0.005, -0.004	**<0.001**
Denoising						
MP-PCA	—	—		—	—	
None	0.060	0.039, 0.081	**<0.001**	0.335	0.280, 0.391	**<0.001**
% Motion	0.013	0.012, 0.014	**<0.001**	0.021	0.019, 0.023	**<0.001**
Scheme Type * N. Directions						
*Non-Shelled * N. Directions*	-0.001	-0.001, 0.000	**<0.001**	0.001	0.001, 0.002	**<0.001**

[1] CI = Confidence Interval

Supplementary Listing 1: *Factors Impacting RMSE Following Head Motion Correction*. Error following motion correction is largely due to uncontrolled factors (presupposed head motion), preprocessing choices (use of denoising), and experimental design (sampling scheme).