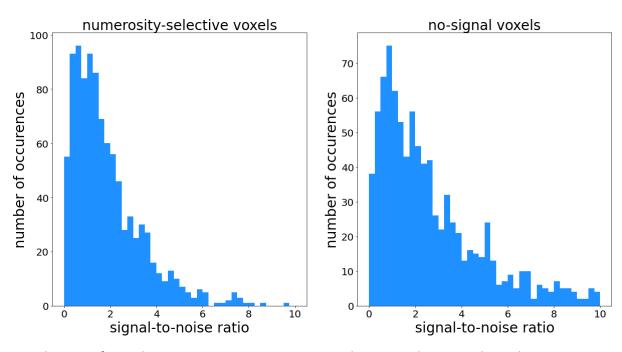
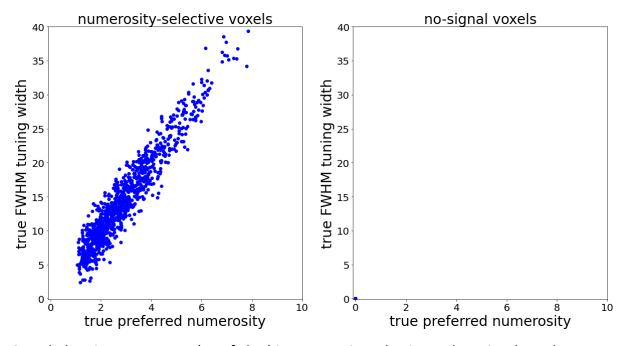
## Expected output of EMPRISE-analysis/code/Python/Demo.py:

## **Sanity checks**

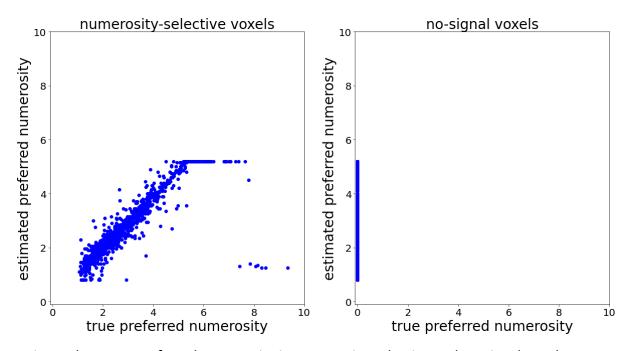


Distribution of signal-to-noise ratio in numerosity-selective and no-signal voxels.

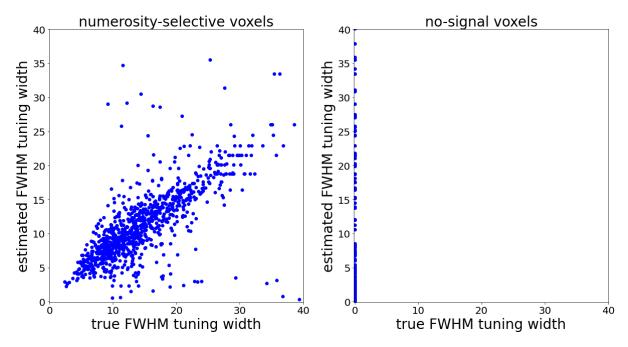


Sampled tuning parameters (mu, fwhm) in numerosity-selective and no-signal voxels.

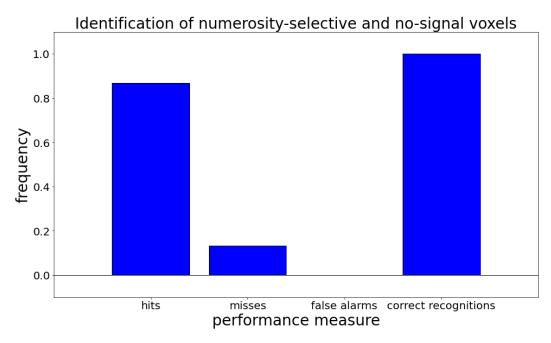
## **Estimation accuracy**



Estimated vs. true preferred numerosity in numerosity-selective and no-signal voxels.

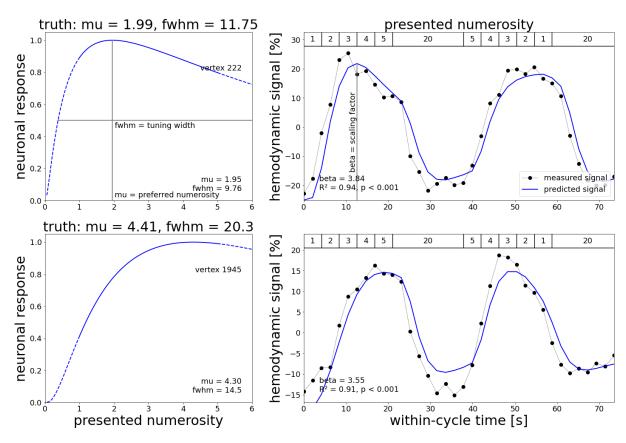


Estimated vs. true FWHM tuning width in numerosity-selective and no-signal voxels.

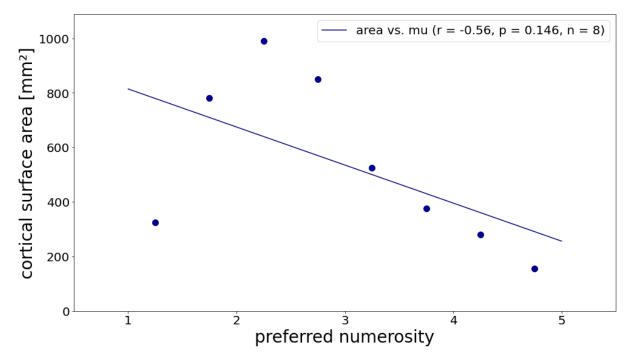


Identification of numerosity-selective voxels as responsive to numerosity (beta > 0;  $1 \le mu \le 5$ ;  $R^2 > 0.2$ ; "hits", rather than "misses") and identification of no-signal voxels as not responsive to numerosity ("correct rejections", rather than "false alarms"). This demonstrates that the technique has high sensitivity and specificity.

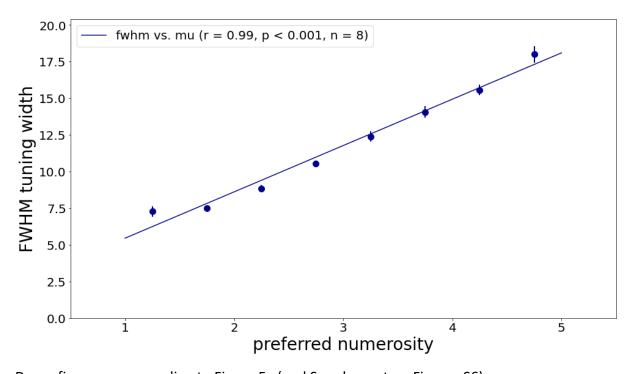
## Figures analogous to manuscript



Demo figure corresponding to Figure 2a-d (and Supplementary Figures S1).



Demo figure corresponding to Figure 5a (and Supplementary Figures S5).



Demo figure corresponding to Figure 5c (and Supplementary Figures S6).