

1 **Improved temporal resolution for mapping brain metabolism using functional PET and**
2 **anatomical MRI knowledge**

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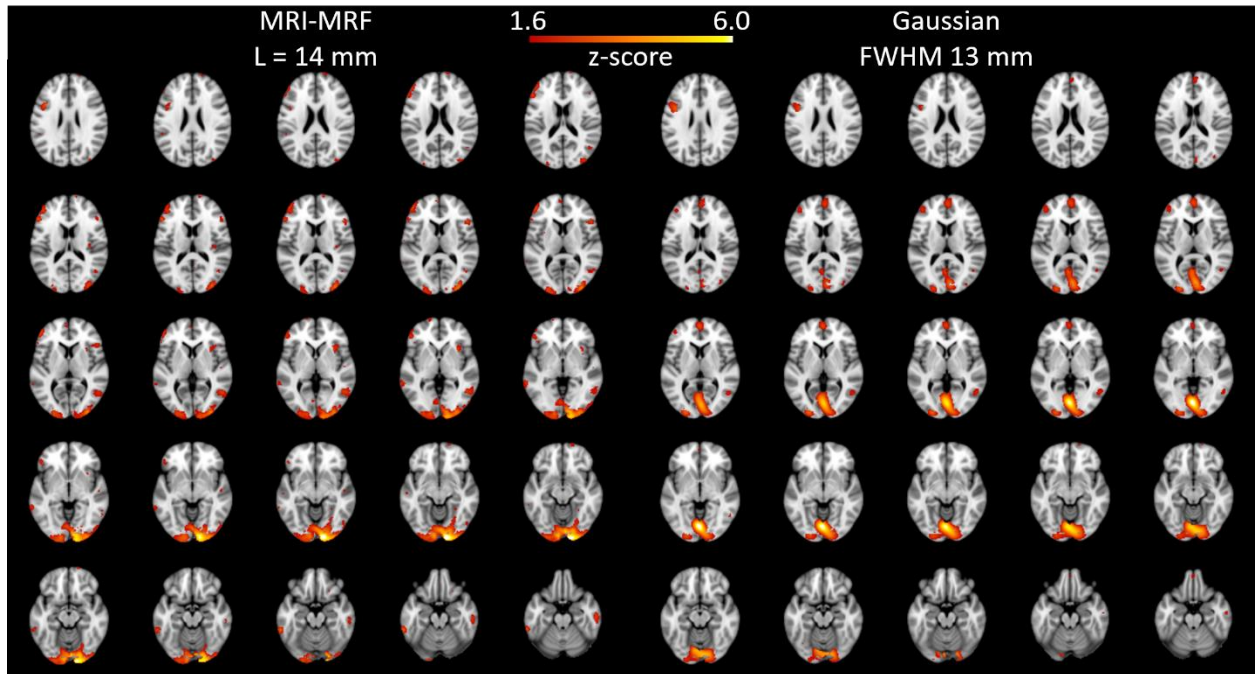
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6 **Supplementary Results**

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8 **ICA Results**

9 In the main text, we reported the results of the visual task components obtained both at subject-
10 level and group-level from the proposed MRI-MRF prior and Gaussian smoothing. Here we
11 provide all the comparisons across different slices for both the methods.

12 Supplementary Figures 1 – 4 compares the visual task components for MRI-MRF prior and the
13 Gaussian smoothing with FWHM 13 mm. At all the DFs, for most of the axial slices, the MRI-
14 MRF prior shows activation which closely follows the anatomy of the visual cortex. In slices where
15 there is increased activation shown by the MRI-MRF prior, results from Gaussian smoothing
16 shows a large blob of activation around the visual cortex but extends to other anatomical regions.
17 At $DF = 1$ and 2 , the Gaussian filter shows activations which do not appear localized in the visual
18 cortex region. At $DF = 3$, Gaussian smoothing does not provide activation which can be concluded
19 as task related activations in the visual cortex.

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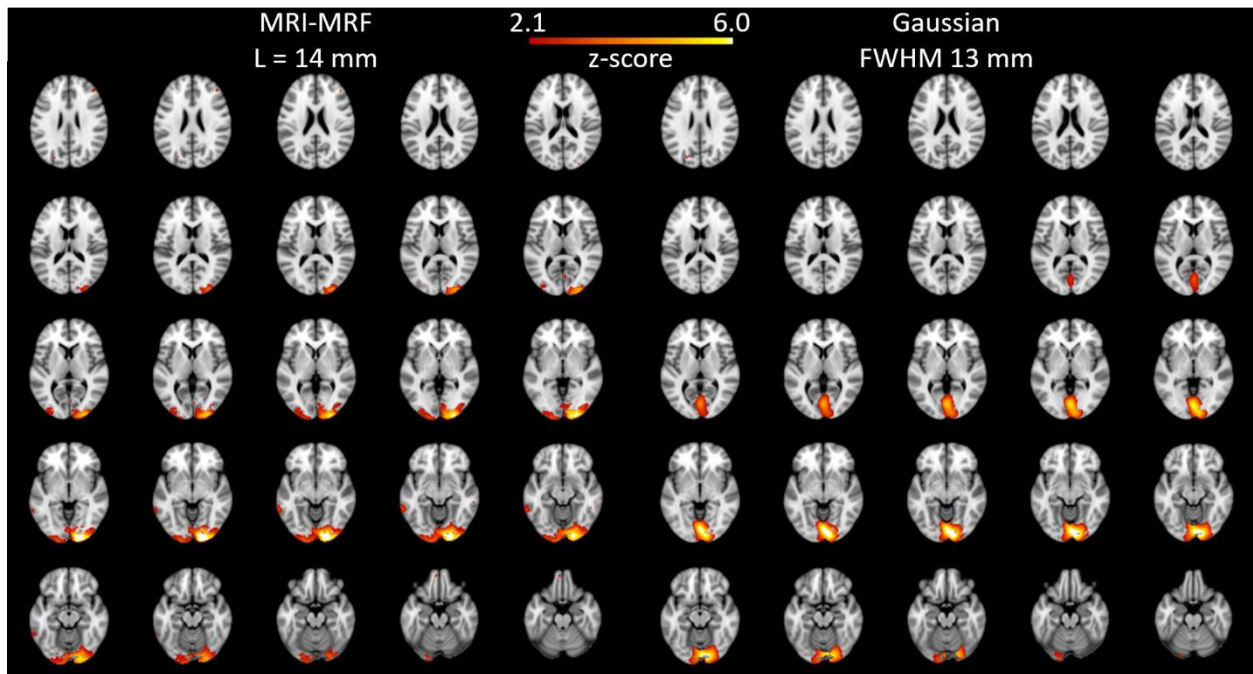
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22 Supplementary Figure 1 Subject-level ICA at DF = 1. Comparison of visual task component
23 across slices for MRI-MRF (left) and Gaussian filter (right) with FWHM 13 mm.

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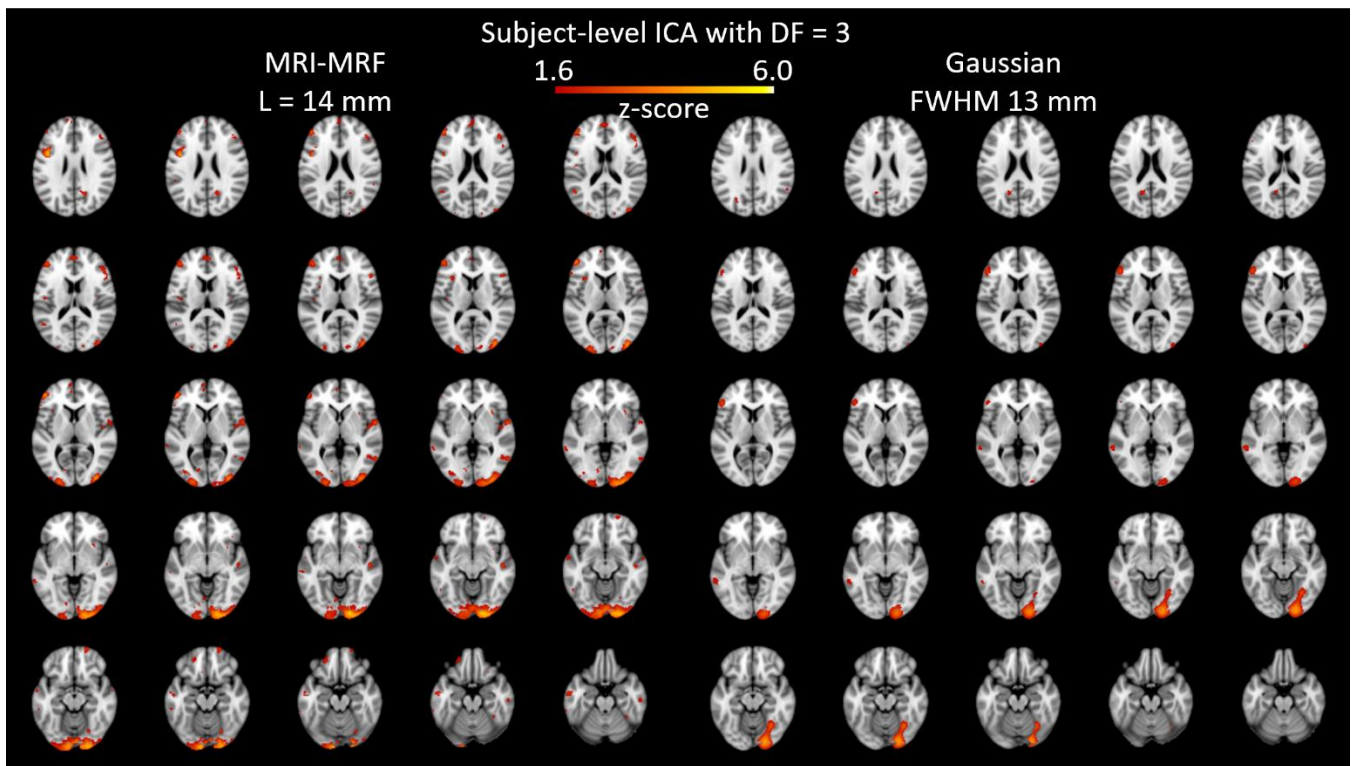
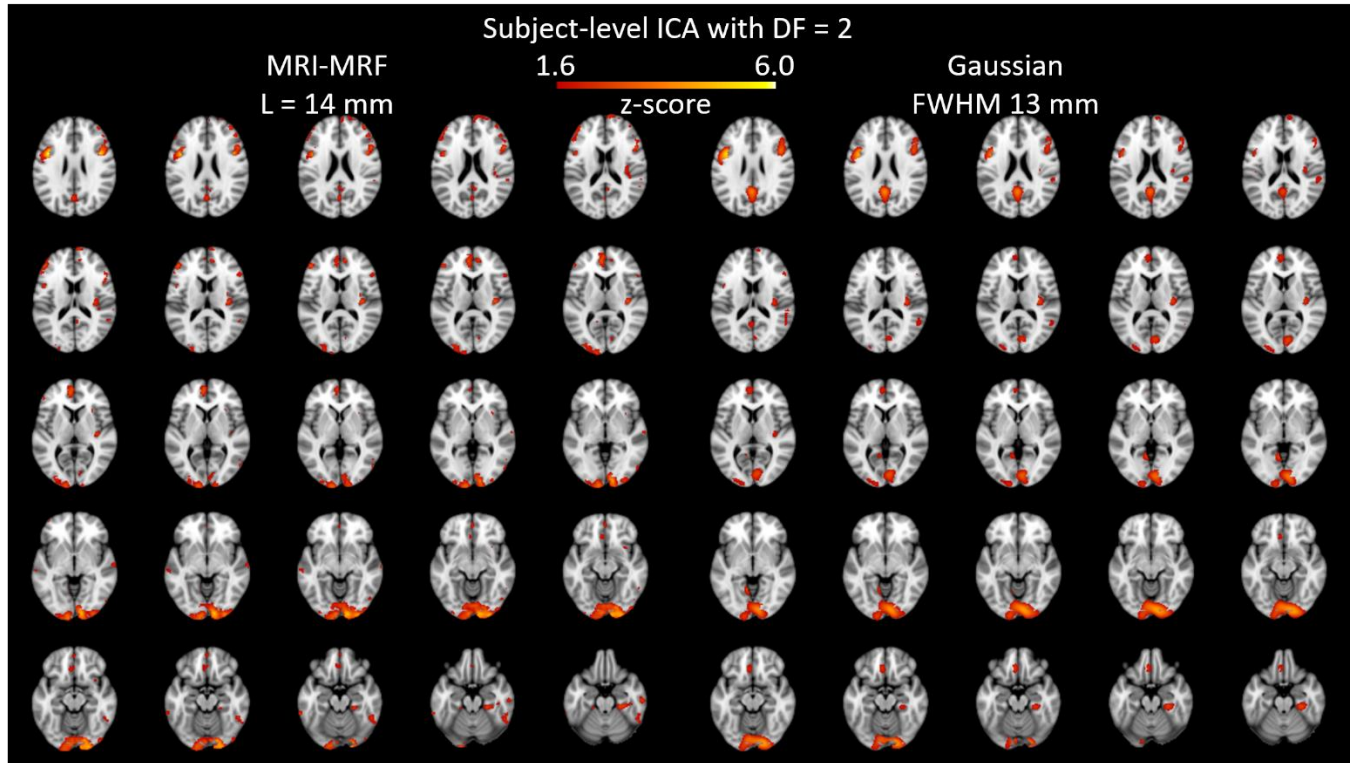
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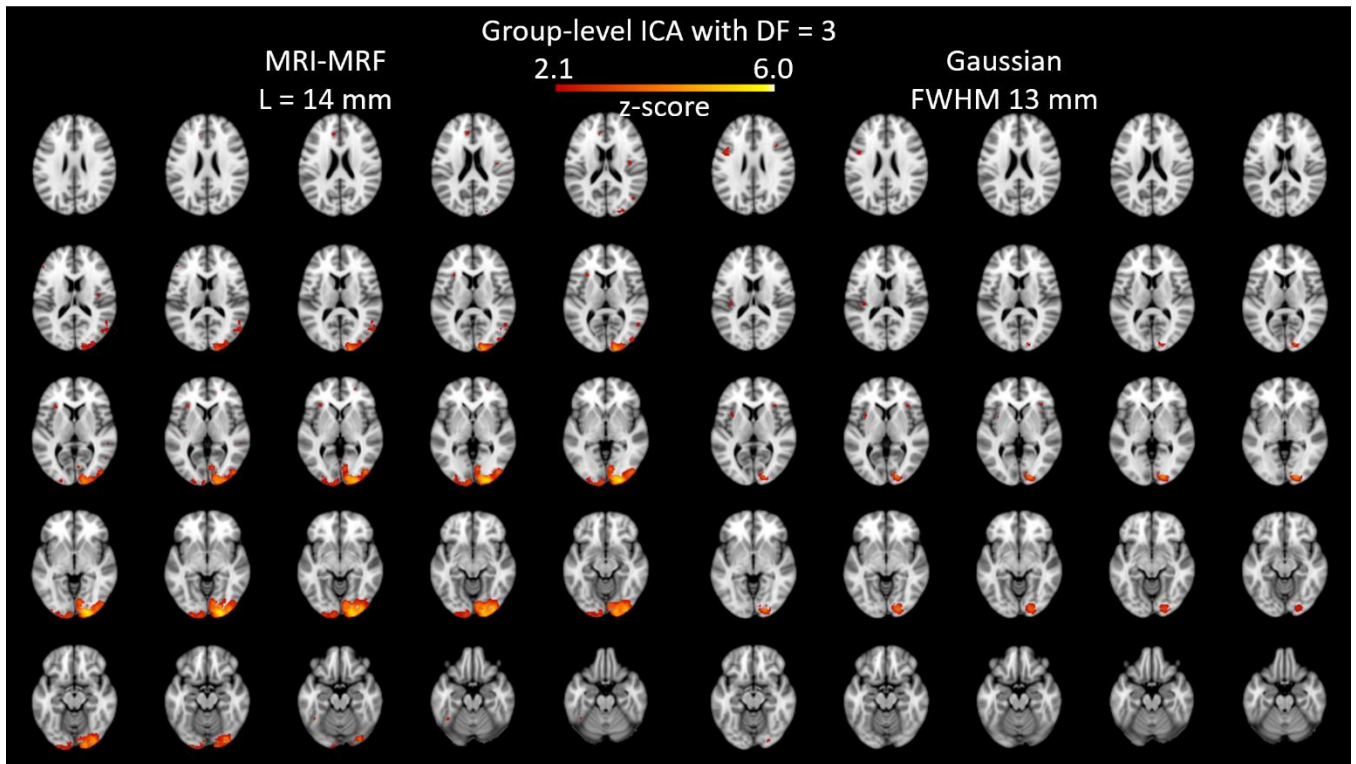
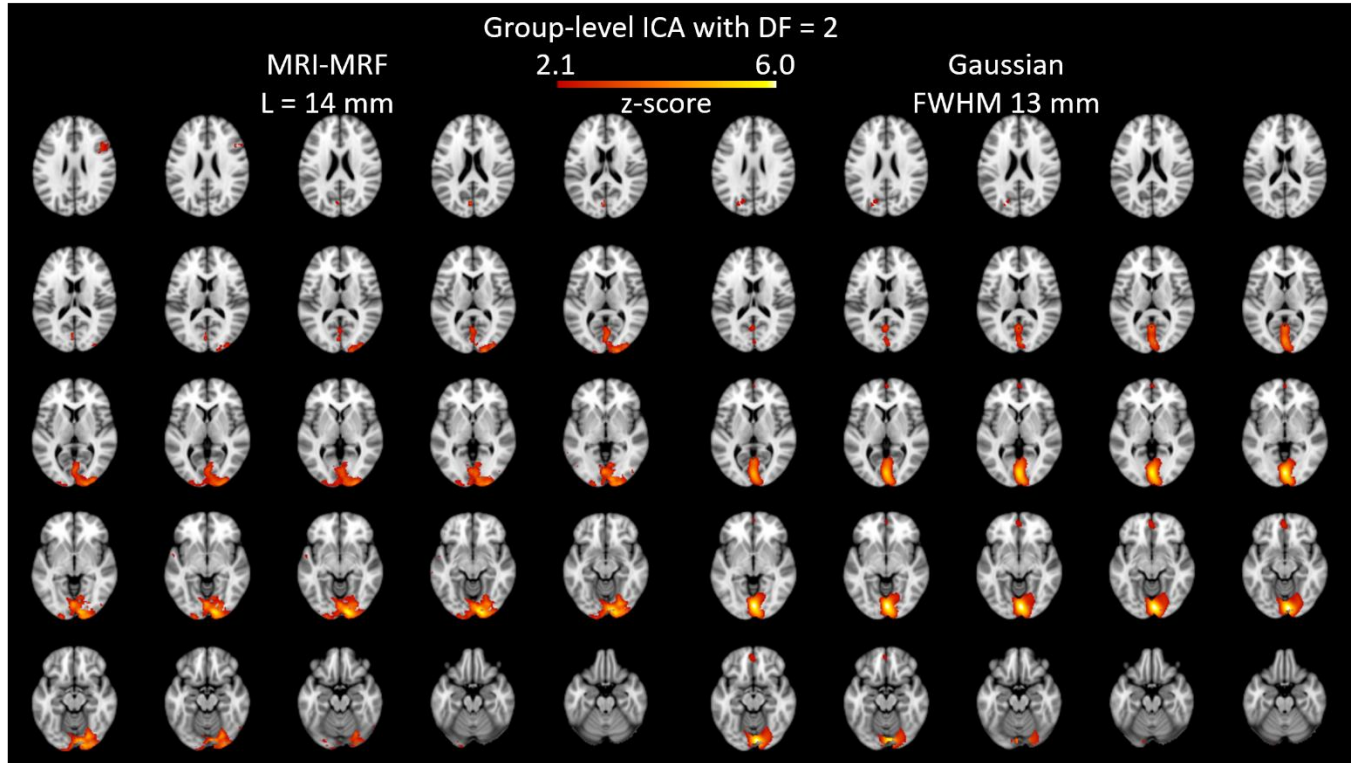
28 Supplementary Figure 2 Group-level ICA at $DF = 1$. Comparison of visual task component
 29 across slices for MRI-MRF (left) and Gaussian filter (right) with FWHM 13 mm.

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32 Supplementary Figure 3 Comparison of subject-level ICA between MRI-MRF prior and
 33 Gaussian smoothing at DF = 2 (top) and 3 (bottom).



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35 Supplementary Figure 4 Comparison of group-level ICA between MRI-MRF prior and Gaussian
 36 smoothing at DF = 2 (top) and 3 (bottom).