Massively Parallel Neural Circuits for Stereoscopic Color Vision: Encoding, Decoding and Identification List of Supplementary Files

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The supplementary material consists of a total of 9 videos. All videos are in mpeg4 format and can be played with most of modern players. We describe each of the videos below.

1. **Video S1:**
   Reconstruction of a natural visual scene encoded by a Color Video TEM. The original visual scene, its reconstruction and the error are shown from left to right, respectively. See also Figure 4.

2. **Video S2:**
   Reconstruction of a natural visual scene encoded by a Color Video TEM. The reconstruction is demixed into R, G, B channels, shown in each row with respective color. The original visual scene, its reconstruction and the error are shown from left to right, respectively. See also Figure 5.

3. **Video S3:**
   An example of spatial temporal receptive field that models the Red-ON-Green-OFF center surround receptive field in the primate retina. The original receptive field is shown on the left. The projection of the

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original receptive field onto the space of stimuli is shown on the right. See also Figure 7.

4. **Video S4a:** Evaluation of identification in the stimulus space. For description, see Figure 13. SNR of the reconstructions are shown.

5. **Video S4b:** Evaluation of identification in the stimulus space. For description, see Figure 13. SSIM index of the reconstructions are shown.

6. **Video S5:** Reconstruction of a natural visual scene encoded by a Stereoscopic Video TEM. The original visual scene, its reconstruction and the error are shown from left to right, respectively. The left and right channels are embedded into a red-cyan anaglyph. A pair of red-cyan 3D glasses is needed to view this video. See also Figure 15.

7. **Video S6:** Reconstruction of a natural visual scene encoded by a Stereoscopic Video TEM. The reconstruction is demixed into left- and right-eye channels, shown in the first and the second row, respectively. The original visual scene, its reconstruction and the error are shown from left to right, respectively. See also Figure 16.

8. **Video S7:** Reconstruction of a natural visual scene encoded by a Stereoscopic Color Video TEM. The original visual scene, its reconstruction and the error are shown from left to right, respectively. The left and right channels are embedded into a red-cyan anaglyph. A pair of red-cyan 3D glasses is needed to view this video. See also Figure 18.

9. **Video S8:** Reconstruction of a natural visual scene encoded by a Stereoscopic Color Video TEM, demixed. The reconstruction is demixed into 6 channels: RGB for each of the two eyes. The RGB channels for the left eye are shown in the first three rows, respectively, and the last three rows show the RGB channels, respectively, for the right eye. The original visual scene, its reconstruction and the error are shown from left to right, respectively. See also Figure 19.