**Interocular transfer across ocular dominance columns of primate V1**

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Interocular transfer of adaptation (IOT) is a well-studied phenomenon that reveals the integration of visual information between the eyes. Long investigated with psychophysics, recent work has begun to shed light on the neural mechanism supporting IOT. However, previous studies were largely limited to the surface of cortex using optical imaging in the cat. Here, we expand this investigation to the laminar columnar microcircuitry resulting in awake primates. To do so, we recorded neural activity across ocular dominance columns in fixating macaques. First, we characterized tuning of V1 units to eye (ocular dominance) and orientation. Laminar alignment across recordings was established using current source density analysis. Receptive fields were determined by reverse-correlating responses to random noise dot patches flashed across the visual field. Overlapping receptive fields and convergent tuning preferences verified that electrode penetrations were orthogonal to the cortical surface. To investigate IOT, we presented static gratings to population receptive fields. Gratings were initially presented monocularly for 800 milliseconds. Immediately following, the same grating stimulus was shown at a matching location in the other eye. The preferred eye, null eye, preferred orientation, and null orientation were varied in the adaptation period to examine IOT under various levels of excitatory drive. We found significant differences in IOT magnitude across columns. Results will be discussed in context with recently revised models of interocular circuitry.