

Motion correspondence shows feature bias in spatiotopic coordinates

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How is the visual system able to maintain object identity as the objects or the eyes move? Recent studies have shown that feature information can influence correspondence (e.g., Hein & Moore, 2009, *Journal of Vision*, 9(8), 658). Here we investigated if this feature influence is effective in a retinotopic or spatiotopic frame of reference. We used a variation of the Ternus display, an ambiguous apparent motion display, in which three discs, aligned vertically, were presented in alternation with a second set displaced vertically so that the bottom two discs of the first set line up with the top two of the other set. The discs could be perceived as moving all together (*group motion*) or as one disc “jumping” up and down while the other discs remained stationary (*element motion*). We biased the percept toward element motion by anchoring a disc’s surface features to a fixed spatial location. In addition, participants had to make horizontal saccades across the Ternus display such that the two Ternus frames were horizontally offset at the retina, but not in spatiotopic coordinates. We found that the element bias persisted independently of the retinal position change, suggesting that the feature influence on motion correspondence is spatiotopic.

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