A bias in transsaccadic perception of spatial frequency changes

A previous study [1] reported that transsaccadic shape-change perception is biased due to visual-field differences. Here, we asked whether similar asymmetries occur in other visual features and how well the differences in appearance between the peripheral and foveal visual field could explain them. We investigated the perception of spatial frequency (SF) changes across saccades.

**Introduction**

A bias for frequency-increase reports

- **Experiment 1**: Two-alternative forced choice task
- **Experiment 2**: Estimation of SF in the periphery and the fovea separately
- **Experiment 3**: Criterion-free change detection task
- **Experiment 4**: Discrimination of SF only presaccadically

References:


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**Methods and results**

**Stimuli**

Gabor's varying in SF in a range of 0.84 to 4.76 cpd.

**Conclusion**

Our results demonstrate a bias to perceive changes from low to high frequency across saccades. The bias could not be explained by visual-field differences. Lower thresholds in the presaccadic discrimination task compared to the change detection task suggest that transsaccadic change detection is impaired by masking [2] or overwriting [3] of the presaccadic stimulus from the postsaccadic stimulus.