The role of spatial and temporal chromatic contrast for S-cone chromatic discrimination

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Background

- S-cone signals are conveyed in the small bistratified ganglion cells of the Koniocellular pathway (Dacey & Lee, 1994).
- S-cone discrimination is the ability to detect a difference between two lights that differ in S-cone excitation.
- Discrimination is best at the surround chromaticity.

Purpose

To measure the effect of spatial and temporal contrast between the adapting and test chromaticities on S-cone discrimination.
**Stimuli**

Surround Chromaticity: EES (s = 0.997), yellow (s = 0.4), purple (s = 5.0).

**Task:** Identify the quadrant of the test square.

**Procedure:** Discrimination threshold was measured by a four-alternative-choice double random staircase.

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**KC-Pathway Model**

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**Purple Surround (s = 5.0)**

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**Yellow Surround (s = 0.4)**

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**EES Surround (s = 0.997)**

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