

要 旨

他眼順応刺激による色順応効果

梶原 誠

反対色チャンネルが赤-緑，青-黄チャンネルという単一なチャンネルなのか，それとも，赤，緑，青，黄のという独立なチャンネルなのか検討するために，両眼を使い，網膜より比較的高次な場所，両眼融合体以降の領域である外側膝状体以降の領域での色順応効果を調べた．

順応刺激は，錐体軸（第2色覚異常者の混同色線，第3色覚異常者の混同色線）上の赤，緑，青，黄を定常的に呈示する刺激（順応条件2）と，白色と順応条件2の赤，緑，青，黄を0.5Hzで等輝度交替させる刺激（順応条件3）を用いた．テスト刺激は空間的にガウス関数形状で，時間的にサイン波状に変化する刺激をCRTディスプレイ上の4箇所の中の1箇所に呈示する．色弁別閾値の決定には，4AFCと階段法（two down-one up）を組み合わせで用いた．

色順応後の閾値上昇は，順応条件が3の場合は，各色方向に対称な閾値の上昇がみられた．順応色が赤以外では，順応効果がみられ，各色方向に対称な閾値上昇がみられた被験者と，順応効果自体があまりみられない被験者がいた．この結果は，片眼を刺激することで，外側膝状体以降の影響が片眼へも伝わるのが，明らかとなったが，その影響の伝わり方には個人差がある結果となった．また，反対色チャンネルの独立性については，同一眼への色順応と同様に，反対色チャンネルの独立性を示唆しない結果であった．

キーワード 反対色チャンネル，色交替刺激，選択的順応

Abstract

Chromatic Adaptation Effect on one eye by Chromatic Stimuli presented to the other eye

We examine chromatic adaptation effect (CAE) which is higher level than retina by chromatic stimuli presented to the other eye, in order to investigate whether red, green, blue, and yellow channels in opponent color channels are independent each other or not.

We used an adaptation stimulus (adaptation condition 2) which is presented stationary adaptation stimuli those red, green, blue or yellow on the cone axis which is on deuteranopic confusion line and tritanopic confusion line or adaptation stimulus (adaptation condition 3) which is switched from white to red, green, blue or yellow on the same cone axis. Test stimuli is spatial Gaussian shape and do changing a temporal form varying sinusoidally, were presented in one of four quadrants on the CRT. 4AFC and staircase procedure was used to determine color discrimination thresholds at the time.

As a result, it was showed rise thresholds to symmetry each color used test stimuli in adaptation condition 3. After all there were two case that one case was showed rise thresholds to symmetry each that colors by M.K, another case was showed color adaptation to little effect by T.S and M.H. Therefore, it was become clear infection with order effect over LGN from eye to another eye. But the infection was unlike each other. As for independent of opponent color channels, it wasn't showed independent in the same result of using both eyes.

key words opponent color channels,color flickering stimulus,selective adaptation