

# 稳态视觉诱发电位神经网络间的相互作用

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稳态视觉诱发电位 (steady-state visual evoked potential, SSVEP) 不同于瞬态视觉诱发电位, 有其独特的产生机理。当用两种不同频率的闪光同时刺激时, 每种频率闪光诱发的SSVEP 之间是否会相互影响? 它们与对应单一频率闪光刺激时产生的SSVEP的关系怎样? 作者用?琢波段频率8.3 Hz与?茁波段频率20 Hz 的闪光分别及同时刺激10个被试的双眼, 发现在同时刺激时, 每种频率闪光的SSVEP比对应单频刺激时的SSVEP略小, 但位置分布无明显变化。这说明不同频率SSVEP的产生网络是彼此独立的, 在被同时激活时, 每个网络产生的信号并不相互影响。

## The Interaction between The Neural-networks for Different Frequency Steady-state Visual Evoked Potential

There is a big difference between the genesis of steady-state visual evoked potential (SSVEP) and transient event related potential (TERP). When stimulated by two different frequency flickers simultaneously, is there some interaction between the neural networks for the different frequency SSVEPs? And what is the relationship between the SSVEP in this situation and that under situation of only one flicker? In this work, an 8.3 Hz and a 20 Hz flicker were used to stimulate the subject's eyes independently or simultaneously, it was found that, when stimulated simultaneously, the SSVEP was a little smaller than that when stimulated independently, but the distributions of SSVEP was similar under each situation. This suggests that the neural network for different frequency SSVEP is independent to some extent, when activated simultaneously, there is no interaction between them.

### 关键词

稳态视觉诱发电位 (Steady-state visual evoked potential); 基波 (The fundamental frequency); 二次谐波 (The second harmonic); 闪光 (Flicker)