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PDF文档

图形形状与空间位置知觉诱发脑电的相干性分析

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利用128道高分辨率脑电测量技术及脑电相干处理技术，通过测量大脑对图形形状知觉（任务1）、图形形状和空间位置知觉（任务2）两种任务的事件相关电位，并基于电极数大致相同的原则，从枕叶至额叶把头表分成了7个区，然后分析了枕叶与其它各区在不同频段的相干性。结果发现：在g1频段（28-39Hz），任务2时的平均相干系数值显著大于任务1时的相应值；同时还发现在枕叶与额叶间，任务2的相干系数更显著地大于任务1的相干系数。结合视觉的两条通路的理论，这一结果从相干性角度表明，背侧通道的参与强化了枕与额叶之间的信息沟通，而这种沟通主要在g1频段。

EEG Coherence Analysis of Form and Spatial Location Perception

Two kinds of methods, that is, 128-channel high temporal resolution electroencephalograms and coherence technology, were integrated to research the cognitive activation patterns in responding to the task of form perception (task1) and the task involving both form discrimination and spatial location(task2). Simultaneously, the scalp was divided into 7 parts from occipital area to frontal area, each of them included same number electrodes. Coherences, between occipital area and other areas, of different frequency band were calculated. The results indicated that the average coherence index of task 2 was significantly bigger than the one of task 1 in g1 band(28-39Hz). In addition, between occipital area and frontal area, the difference of coherence index between task 2 and task 1 was significantly bigger than the ones between occipital area and others. Combined with two visual pathways theory, and from coherence aspect, these data suggested that the participation of dorsal stream strengthen the information communication, happening mainly in g1 band, between occipital area and frontal area.

关键词

腹侧通路；背侧通路；g频段；事件相关电位； 相干系数(Ventral stream; Dorsal stream; g1 band; event-related potentials; Coherence)