

二阶运动条件下闪现滞后现象的研究

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闪现滞后现象 (flash-lag effect) 是指运动物体旁闪现的物体在知觉中物体落后于运动物体的现象。对这个现象, 有一种解释认为视网膜上对运动刺激的外推机制对闪现滞后现象有相当的贡献。用视网膜外推机制不再有效的二阶运动刺激取代前人实验中的一阶运动刺激来研究闪现滞后现象, 发现在视网膜推断机制失效的情况下, 闪现滞后现象并没有减小, 而是和一阶运动刺激条件下的量相当。结果表明, 视网膜上的加工机制并不是闪现滞后现象的主要原因, 并提示闪现滞后现象的机制可能位于一、二阶运动加工通道的汇合阶段以上。

FLASH LAG EFFECT IN THE SECOND-ORDER MOTION

Flash lag effect describes a phenomenon that flash objects are perceived at a position behind physically aligned moving ones. Several contradictory explanations were proposed in recent years. The retina extrapolation proposal, based on a linear filter model, is the most competitive one to reach the neural mechanism of this effect. This proposal has been tested in the present study, in a second-order motion configuration, which was assumed to be irresolvable for the linear filter model. A luminance defined first-order motion and a motion-contrast defined first-order motion were used as control conditions. The results suggest that there was no significant difference between the amplitudes of the flash-lag effect in the second-order motion and in the first-order motion. This indicates that the retina extrapolation is not the main mechanism of the flash-lag effect. The results also suggest that the main mechanism of the flash-lag effect might locate above the combination of the first-order motion and the second-order motion computational channel.

关键词

闪现滞后现象 (Flash-lag effect); 视网膜 (Retina); 运动外推机制 (Motion extrapolation); 二阶运动 (The first order motion)