

Friday Talks

Action and virtual environments

Friday, July 15, 10:00 am - 12:00 pm

Talk Session, Library Extension 4

Chair: Jeffrey A. Saunders

11.1, 10:00am

Active control does not eliminate motion-induced illusory displacement

Ian M. Thornton¹ (i.m.thornton@swansea.ac.uk), Franck Caniard², Pascal Mamassian³, Heinrich H. Bülhoff²; ¹Department of Psychology, Swansea University, ²Max Planck Institute for Biological Cybernetic, Tübingen, Germany, ³Laboratoire Psychologie de la Perception, Université Paris Descartes, Paris, France

When the sine-wave grating of a Gabor patch drifts to the left or right, the perceived position of the entire object is shifted in the direction of local motion. In the current work, we explored whether active control of the physical position of the patch overcomes such motion induced illusory displacement. In Experiment 1, we created a simple computer game and asked participants to continuously guide a Gabor patch along a randomly curving path using a joystick. When the grating inside the Gabor patch was stationary, participants could perform this task without error. When the grating drifted to either left or right, we observed systematic errors consistent with previous reports of motion-induced illusory displacement. In Experiment 2, we created an iPad application where the built-in accelerometer tilt control was used to steer the patch through a series of "gates". Again, we observed systematic guidance errors that depended on the direction and speed of local motion. In conclusion, we found no evidence that participants could adapt or compensate for illusory displacement given active control of the target.

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