On each trial a single black dot (20 min arc) appeared in a random location within 4° of the screen center. The dot moved with a constant speed in one of 4 possible directions (Up, Down, LtoR, RtoL), randomly selected on a trial-by-trial basis. After traveling a short distance (between 3° and 6°), the dot disappeared.

After a 1 second retention interval, observers (N=12 in all Exps.) were required to localize the start and offset points, clicking first on the perceived start and then on the perceived stop location using a standard mouse arrow. When observers are asked to indicate both the ONSET and OFFSET of a moving object, they systematically mislocalize the point of appearance back along the path of motion, that is, in a position that was never occupied.

This “onset repulsion effect” (ORE) is larger and more consistent than offset localization errors (representational momentum) or errors parallel to the direction of motion.

When observers are instructed to focus only on the start location, a small onset repulsion effect is still observed. Thus, at least in this velocity range, the effect does not require attention to both the start and the stop locations.

The onset repulsion effect increases with velocity up to approx 10°/sec. As speed increases, observers shift the perceived onset point further away from the true origin.

We are currently exploring what happens with velocities in the range used to study the Fröhlich Effect (15°-50°/sec).

In this Experiment, a dense reference grid with 15 x 15 min arc cells covered the entire screen. Even when the object moved within the grid, observers continued to mislocalize the point of appearance back along the path of motion, that is, in a position that was never occupied.

This “onset repulsion effect” (ORE) is larger and more consistent than offset localization errors (representational momentum) or errors parallel to the direction of motion.

When observers are asked to indicate both the ONSET and OFFSET of a moving object, they systematically mislocalize the point of appearance back along the path of motion, that is, in a position that was never occupied.

This “onset repulsion effect” (ORE) is larger and more consistent than offset localization errors (representational momentum) or errors parallel to the direction of motion.

The onset repulsion effect increases with velocity up to approx 10°/sec. As speed increases, observers shift the perceived onset point further away from the true origin.

We are currently exploring what happens with velocities in the range used to study the Fröhlich Effect (15°-50°/sec).

In this Experiment, a dense reference grid with 15 x 15 min arc cells covered the entire screen. Even when the object moved within the grid, observers continued to mislocalize the point of appearance back along the path of motion, that is, in a position that was never occupied.

This “onset repulsion effect” (ORE) is larger and more consistent than offset localization errors (representational momentum) or errors parallel to the direction of motion.

When observers are asked to indicate both the ONSET and OFFSET of a moving object, they systematically mislocalize the point of appearance back along the path of motion, that is, in a position that was never occupied.

This “onset repulsion effect” (ORE) is larger and more consistent than offset localization errors (representational momentum) or errors parallel to the direction of motion.

When observers are asked to indicate both the ONSET and OFFSET of a moving object, they systematically mislocalize the point of appearance back along the path of motion, that is, in a position that was never occupied.