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# The Moving Eye is Easy to Spy: How Motion Improves Gaze Discrimination

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**Abstract:** When people move their eyes, their change in eye direction carries a motion signal. However, most research using gaze direction as a stimulus either controls or excludes the motion of the eyes. Here, we directly examined the role of motion in the discrimination of eye movements. Participants were shown two images: a person looking straight ahead and then looking to the left or right at 1, 2 or 3 degrees visual angle from fixation. This resulted in the apparent motion of the eyes to the left or right. In the no motion condition, participants received the two images separated by a 200 ms blank display, eliminating the perception of motion. Participants were more accurate and more confident of their judgements in the condition that included eye motion, but were also highly accurate without motion. These data indicate that eye motion can contribute to the computation of another's gaze direction.