

Humans Can simultaneously Attend to eight Moving objects.

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Abstract

How many objects can be attended simultaneously? Alvarez and Franconeri (2007) showed that observers can attentionally track up to eight moving objects. However, the objects moved so slowly that observers may have been switching attention between them. To distinguish between simultaneous and sequential tracking, we had observers track a range of 2 to 8 of 16 identical, independently moving disks. Each disk cycled between moving and stationary phases, with a 50% duty cycle. Critically, the disks cycled either in phase (synchronous) or out of phase (asynchronous) with each other. If observers shift attention between the tracked targets, then tracking performance should be greater in the asynchronous condition, because fewer targets are moving at any given time. We found that observers performed equally well in both the synchronous and asynchronous conditions, regardless of the number of tracked targets. This suggests that observers can attentionally track up to eight objects simultaneously.