The effect of inter-stimulus interval on the partially occluded slalom illusion

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The slalom effect is a kinetic illusion of direction where the straight trajectory of a dot is perceived as sinusoidal due to its intersection with static tilted lines. The illusion has been explained as a global integration of local distortions occurring at each dot-line intersection (Cesaro & Agostini, 1998). When the dot trajectory is partially occluded by replacing the inducing lines with solid black triangles, the magnitude of the effect increases (Soranzo, Gheorghes & Reidy, 2014). A possible explanation is that the inferred motion path behind the occluder is longer than that perceived directly; Kim, Feldman & Singh (2012) showed that when two objects are alternately presented at the ends of an occluder, the reported path of the object varies with the inter-stimulus interval (ISI), in that a longer ISI induces a longer reported path. The present study investigates whether the magnitude of the slalom illusion depends on the time spent by the dot behind the occluding triangles. To test this, the dot speed is kept constant when the trajectory is visible, but manipulated when the dot is occluded. Results are discussed in relation to apparent motion and amodal completion as well as possible delayed global integration of local distortions.