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## Acceleration underlies the local inversion effect in biological motion perception.

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We tested direction discrimination from biological motion stimuli that display only fragments of full foot trajectories at upright or inverted orientations. Results from observers presented with displays derived from counterphase fragments of different types of foot motions showed an inversion effect that was largest for stimuli derived from the human runner which exhibit pronounced vertical accelerations. Results from new observers presented with veridical human walker stimuli and stimuli that were identical but had accelerations removed showed an inversion effect for the veridical stimuli only. These findings suggest that the local inversion effect is carried by acceleration cues in foot motions.