

◆ **Acceleration patterns in the perception of biological motion**

⁹ B Aragão¹, J A Santos¹, M Castelo-Branco² (¹School of Psychology, University of Minho, Portugal; ²IBILI, Faculty of Medicine, University of Coimbra, Portugal; e-mail: brunoaragao@sapo.pt)

A lot of natural stimuli are characterized by acceleration patterns. However, available studies are inconclusive about the importance of these patterns on visual perception. Empirical findings seem to both sustain that acceleration patterns might have, or might have not, a significant role on visual perception [Runeson, 1974 *Psychological Research* **37** 3-23; McIntyre et al, 2001 *Nature Neuroscience* **4**(7) 693-694]. In a recent study Chang and Troje [2009 *Journal of Vision* **9**(1) 19-17] stressed the role of acceleration patterns for the perception of biological motion. Nevertheless, we have a limited understanding about the implications of these patterns for translational stimuli. The present study aimed to investigate how acceleration patterns influence the perception of biological translational motion. We manipulated the velocity of the translational component (maintaining spatial characteristics). This allowed us to create a continuum of stimuli that ranged from natural motion to constant velocity. When two stimuli are presented simultaneously participants are asked to choose which appears more natural. Data shows that subjects choose the stimulus closest to the natural motion—biological motion. Results reveal a great accuracy in detecting the stimulus closest to biological motion, which suggests that acceleration patterns are important in the perception of translational biological motion.

[Funded by FCT (SFRH/BD/42524/2007)]