Perception of radial motion relies on detecting spatial displacements

Cristina de la Malla[1] and Joan López-Moliner[1]

[1] Vision and Control of Action (VISCA) lab.; Institut de Recerca en Cervell, Cognició i Conducta; Universitat de Barcelona.

It has been shown that unconfounding the use of motion from spatial displacement information is possible for lateral motion (Nakayama & Tyler, 1981). Here we test whether this is also possible for radial motion. In order to do so, we adapted the paradigma previously used by Nakayama and Tyler to obtain detection thresholds for lateral and radial motion by adjusting the displacement amplitude of random dots patterns. In agreement with previous studies, we found that the detection of lateral motion relies on either motion or displacement depending on the range of temporal frequency and stimulated area. However, the detection of radial motion was always consistent with detecting a displacement threshold.