Effects of tDCS stimulation on Random Dot Kinematograms perceptual task

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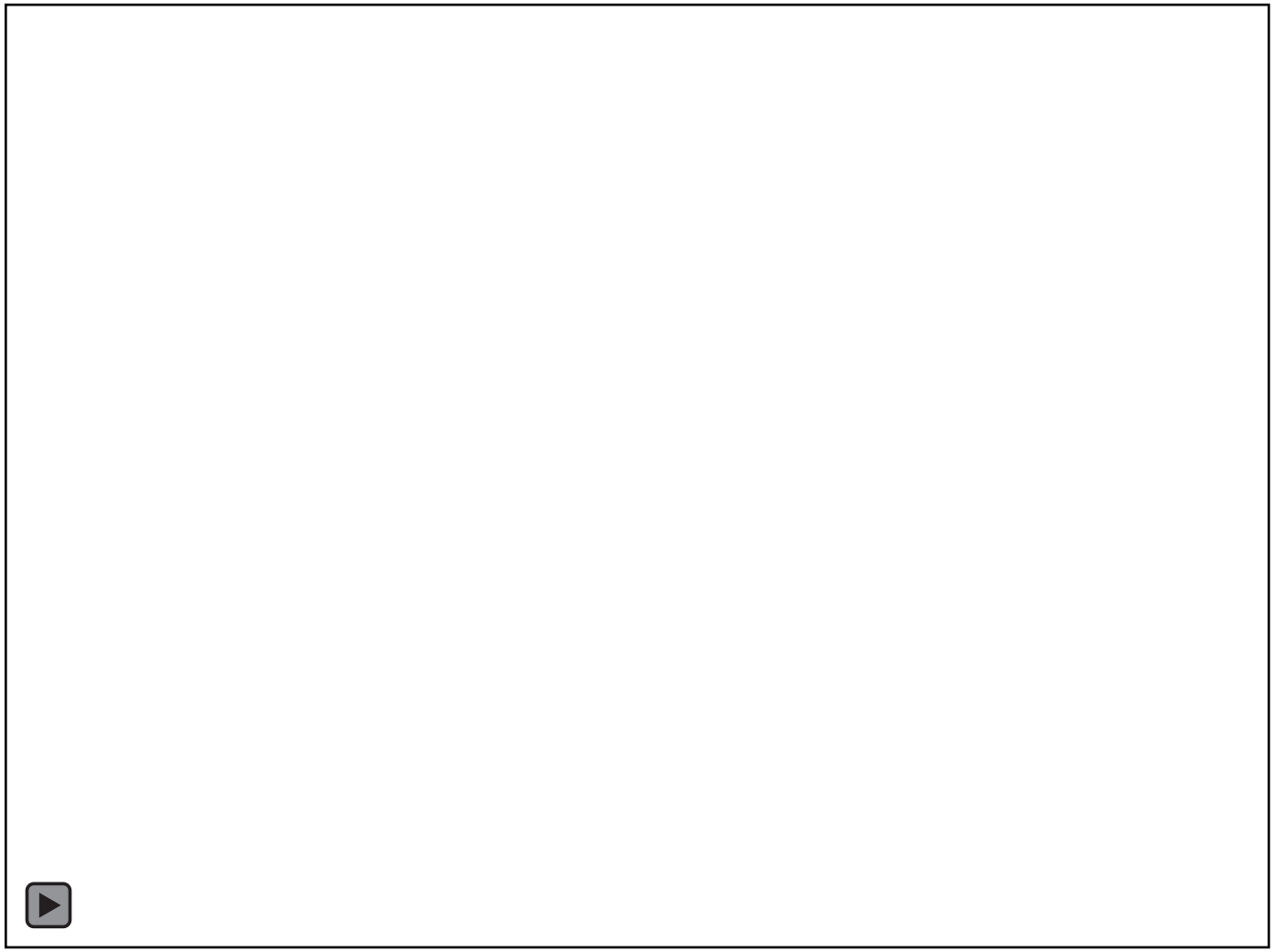
Random Dot Kinematograms

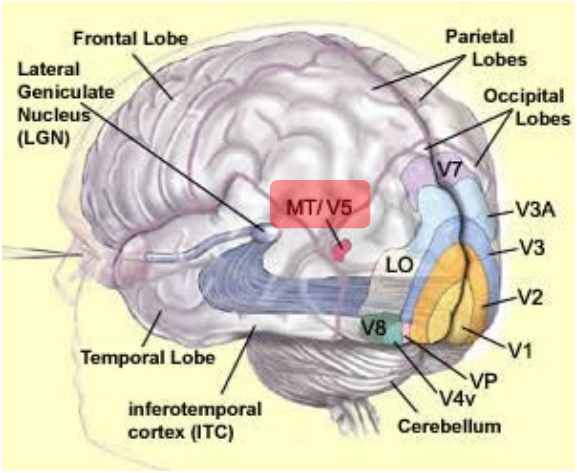


Previous findings

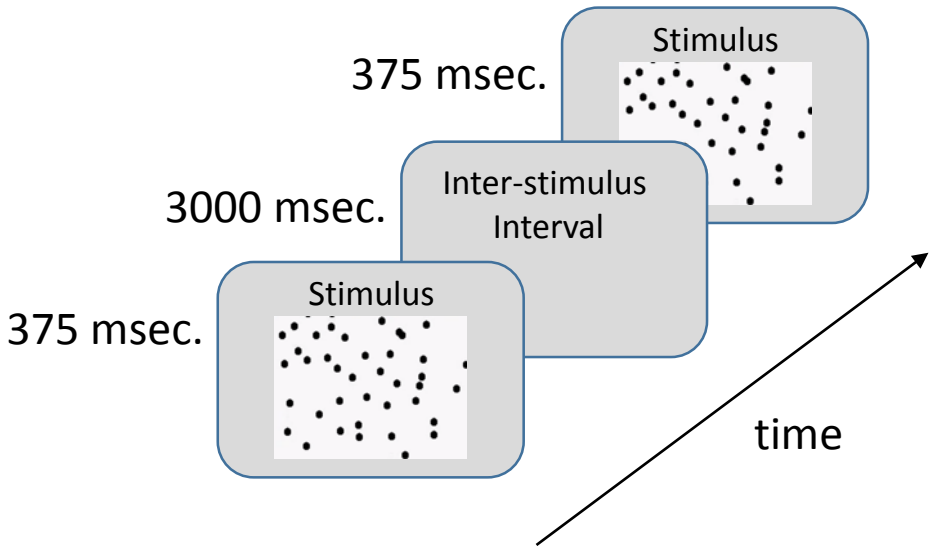
V5 - Sensitive to motion in a wide visual field: perception of speed and direction of moving stimuli.

A reduction in excitability, induced by tDCS cathodal stimulation in V5 reduced the detection time of coherent motion.

Antal, A., Nitsche, M. A., Kruse, W., Kincses, T. Z., Hoffmann, K. P., & Paulus, W. (2004). Direct current stimulation over V5 enhances visuomotor coordination by improving motion perception in humans. Journal of Cognitive Neuroscience, 16(4), 521-527.



Task Procedure



Task parameters

300 moving dots arranged in a circle

circle size: 10°x10° of participant's field of view

each dot: 0.03°

circle offset: 10° left

Screen luminance: 2cd/m2

Dots luminance: 10cd/m2

(3.5 log above detection threshold)

Motion: 5°/sec, maintaining circular shape

tDCS Stimulation parameters

Stimulating electrode position: left V5.

Reference electrode position: Cz

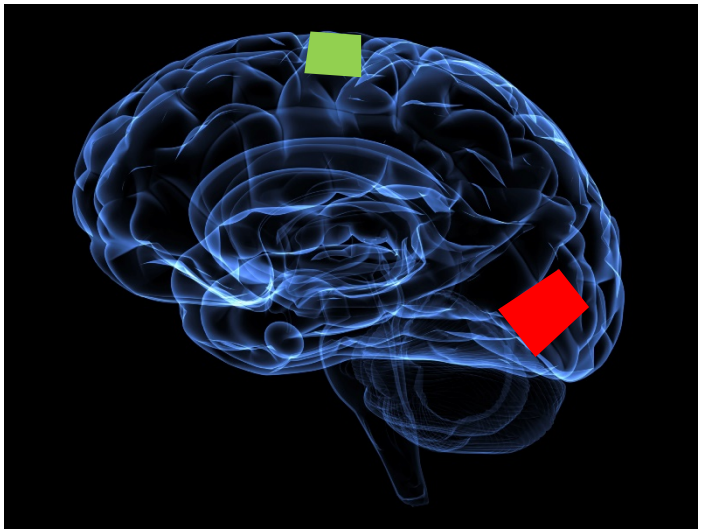
Electrical Current: 1 mA

Electrode size: 7x5 cm (35 cm^2)

Density: 0.029 mA/cm^2

Duration: 7 min

Slope: 30 sec. in, 30 sec. out



Design

Between subjects design:

- Cathodal stimulation
- Anodal stimulation
- Sham