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SUBMISSION ROLE: Abstract Submission

AUTHORS

AUTHORS (LAST NAME, FIRST NAME): Gautier, Josselin¹; OTERO MOLINS, CARLES¹; Pujol, Jaume¹

INSTITUTIONS (ALL):

1. Davalor Research Center - Polytechnic University of Catalonia, Terrassa, Barcelona, Spain.

Commercial Relationships Disclosure (Abstract): Josselin Gautier: Commercial Relationship: Code N (No Commercial Relationship) | CARLES OTERO MOLINS: Commercial Relationship: Code N (No Commercial Relationship) | Jaume Pujol: Commercial Relationship: Code N (No Commercial Relationship)

Study Group:

ABSTRACT

TITLE: Do fixational eye movements relate to accommodative fluctuations? Effect of viewing distance and peripheral cues

ABSTRACT BODY:

Purpose: Microsaccades and accommodative fluctuations have been shown separately to be influenced by the task and the cognitive load. We asked how these two critical components of fine discrimination might be intermingled at the neural level.

Methods: Fixational eye movements and accommodative fluctuations were recorded simultaneously on respectively the left and right eye of participants. (Fluctuations are known to be highly correlated in phase and amplitude in both eyes). A PowerRef II recording at 25 Hz was synchronized to an Eyelink 1000 Plus sampling at 1000Hz. The stimuli were displayed monocularly on the right eye whose accommodation response was measured. Six subjects (normal without glasses, age: 20-28) were asked to fixate during 10 sec a Maltese cross at 0 and 5 Diopters, in 4 scenarios involving a similar physical maltese cross stimuli presented within a real world scene, on a similar sharp or blurry image of this scene and on a white background printed image.

Results: Overall, microsaccade rate appears to increase at shorter distance, in a similar fashion with accommodative fluctuations. However, a type of scene that will favor low variation in accommodative fluctuation (sharp stimuli) will tend to increase microsaccade production and reversely (fixation without external cues: white background).

Conclusions: On normal subject, microsaccade production seems related either to accommodative, proximal or convergence perception. More in depth measurements are needed to disentangle this question.

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DETAILS

PRESENTATION TYPE: #1 Poster, #2 Paper

CURRENT REVIEWING CODE: 2060 eye movements - EY

CURRENT SECTION: Eye Movements/Strabismus/Amblyopia/Neuro-ophthalmology

KEYWORDS: 219 eye movements: fixation, 103 accommodation, 192 depth perception.

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Other Registry Site (Abstract):

Registration Number (Abstract):

Date Trial was Registered (MM/DD/YYYY) (Abstract):

Date Trial Began (MM/DD/YYYY) (Abstract):

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