TECHNISCHE UNIVERSITÄT
CHEMNITZ

Institut für Physik
Physikalisches Kolloquium

Mittwoch, 04.11.2015, um **16:00 Uhr**

Ort: Reichenhainer Str. 90;
Zentrales Hörsaal- und Seminargebäude, Raum 2/N013

Prof. Dr. Ralf Engbert
Department Psychologie
Universität Potsdam

Dynamic models of active vision

Eye movements form an integral part of visual perception—a fact that motivated term „active vision" to characterize visual information processing in human observers. Interestingly, this form of sensory processing extends from everyday activity (e.g., reading, scene viewing) to the microscale (i.e., miniature eye movements during visual fixation). Recent progress on dynamical models for the control of eye movements suggests the existence of similar rules for the generation of saccadic eye movements across tasks. I will review current modeling approaches to fixational eye movements and microsaccades and extend these models to more natural scene viewing paradigms. Next, I will present new results from spatial statistics to move beyond first-order statistics (density of gaze positions) to analyze spatial correlations in gaze patterns. The conclusion from this research will be that dynamical laws of motion for eye-movement behavior can be inferred from data if high-density observations are available.

References:

Sinn, P., & Engbert, R. (in press). Small saccades and microsaccades: Experimental distinction and model-based unification. Vision Research (doi:10.1016/j.visres.2015.05.012).
Engbert, R., Trukenbrod, H. A., Barthelmé, S., & Wichmann, F. A. (2015). Spatial statistics and attentional dynamics in scene viewing. Journal of Vision, 15(1), 14: 1-17 (doi:10.1167/15.1.14).

Alle Zuhörer sind ab 15:45 zum Kaffee vor dem Hörsaal eingeladen.

Informationen zum Vortrag erteilt:
Prof. Dr. Alexandra Bendixen, Tel.: 0371 531- 31681

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