NEUROINFORMATISCHE ANALYSE VON OKULOMOTORISCHEN TESTS ZUM GRAD DER AUFMERKSAMKEITSBEEINTRÄCHTIGUNG

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Abstract— *Oculomotoric performance of 15 young subjects was measured under two different conditions during different states of fatigue. In a first task the subjects had to perform smooth pursuit eye movement and in a second task they had to hold eye fixations over 10 sec. Coordinates of point of gaze and pupil diameters were recorded by an eyetracking device. Their estimated spectral power densities were used as input vectors of learning vector quantization networks to discriminate fatigue states and drowsy states. Mean classification errors of test sets were estimated to be about 26% under smooth pursuit conditions and about 32% under conditions of fixation.*

Keywords—*Eye Movements, Smooth Pursuit, Fixations, Fatigue, Eyetracking, Neural Networks*