



EINLADUNG

zum Vortrag im Rahmen des Seminars des SFB/TRR 31

Freitag, 5. Dezember 2014, 14 Uhr c.t.

im Raum W2 1-143 der Universität Oldenburg
und Raum H28 / R 2.31 des Med. Campus Magdeburg
(per Videoübertragung)

***"Sensitivity to interaural time differences in envelope
and fine structure, individually and in combination"***

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Two types of temporal information occur in sounds: slowly varying overall amplitude – the temporal envelope (ENV) – and more rapidly varying short-term fluctuations, the temporal fine structure (TFS). Hearing loss and/or age do not greatly affect the processing of ENV, but tend to reduce the ability to process TFS (even at frequencies with normal audiometric thresholds). Here, binaural processing of ENV and TFS cues was investigated for normal-hearing (NH) and hearing-impaired (HI) listeners by measuring thresholds for detecting different types of interaural time difference (ITD) in low-frequency amplitude-modulated sinusoidal carriers. All listeners had normal audiometric thresholds at the test frequencies.

The HI listeners had higher TFS-ITD thresholds than the NH listeners, despite normal audiometric thresholds at the test frequency. This effect may have been driven by age. Across all listeners, mean TFS-ITD thresholds were significantly correlated with age. ENV-ITD thresholds were similar for the two groups. Thresholds for detecting an ENV-ITD were much higher than those for detecting a TFS-ITD (when expressed in units of time). For both groups, trading results suggest a super-additivity of ENV- and TFS-ITDs for congruent lateralization, and incomplete cancellation for incongruent lateralization, suggesting that those cues were processed independently. Overall, these results support the hypothesis of a deficit specific to TFS processing in the aging/impaired auditory system.