

## **DAGA2017/541**

# **Effects of Spatial Audio on Speaker Recognition**

Lars-Erik Riechert, Laura Fernández Gallardo und Dennis Guse  
TU Berlin, Quality and Usability Lab  
rieichert@mailbox.tu-berlin.de

For participants of multi-party audio conferences, it can be challenging to attribute what was said to the individual talkers. Spatial audio reproduction may help to overcome this issue. Our work investigates the potential improvement for speaker recognition using binaural synthesis. Here, the individual talkers are distributed to different simulated positions around the listener. In a listening-only test we evaluated the effects of binaural synthesis and additional reverberation compared to a mono-diotic representation. Four similar sounding female voices were presented sequentially either as A) binaural synthesis with four virtual positions at  $\pm 12^\circ$  &  $\pm 30^\circ$ , B) binaural synthesis with identical positions at  $0^\circ$  or C) mono-diotic. Conditions A) and B) featured optional reverberation. The results show a positive effect of the binaural synthesis (A) for speaker recognition performance compared to mono-diotic. In addition, binaural synthesis with low levels of reverberation resulted in the best speaker recognition performance compared to the anechoic settings. Nevertheless, a slight negative impact of the binaural synthesis was observed for the  $0^\circ$  condition. This indicates that the processing weakens some mono-aural cues. However, this negative effect is smaller than the potential gain for speaker recognition performance if talkers are virtually distributed around the listener.

Anzahl der Wörter in der Zusammenfassung: 196  
Klassifikation: Binauraltechnik

Strukturierte Sitzung: Keine Zuordnung zu einer strukturierten Sitzung  
Präsentationsart: Posterpräsentation bevorzugt

Anmeldung: 279170686 - Riechert Lars-Erik - 0 0 nicht bezahlt