Spectral Weighting of Binaural Cues: Effect of Bandwidth and Stream Segregation

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Introduction

It is hypothesized that binaural information is integrated over frequencies in the binaural system to lateralize other sound sources by forming auditory objects. This is commonly referred to as the cochlear hypothesis (Stem et al., 1988). The hypothesis states that the auditory system integrates binaural information from the inner ear and sends the integrated signal to the brain. The brain then uses this integrated signal to localize sound sources.

Method and Stimuli

- **Stimuli Presented via Equalized Headphones (HDA200)**
- **Stimuli Presented via Equalized Left/Right (LD) headphones**

Experiment 1: Static Condition

- **10 Normal Hearing Listeners**
- **5 Normal Hearing Listeners**

Experiment 2: Streaming Condition

- **6 Normal Hearing Listeners**

Hypothesis

It is hypothesized that binaural information is integrated over frequencies in the binaural system to lateralize other sound sources by forming auditory objects. This is commonly referred to as the cochlear hypothesis (Stem et al., 1988). The hypothesis states that the auditory system integrates binaural information from the inner ear and sends the integrated signal to the brain. The brain then uses this integrated signal to localize sound sources.

Results

- **Results Different to Weights Obtained by Stern et al. (1988)**

Discussion and Conclusions

Results obtained different to what would be expected from the duplex theory.

Literature


Figure 1: Spectral Weighting of Binaural Cues: Effect of Bandwidth and Stream Segregation