

Background

in Sound Localization Ability of the Elderly

Problem of aging society

Accidents and inconveniences when the elderly are unable to hear the sounds

- Misidentification of alarm sound
- oblivious to the approaching vehicles



➔ Necessity of telling sound correctly to the elderly

Focus on sound localization

Prior Research

Cognitive decline and left-right asymmetry are confirmed in the elderly with Interaural Time Difference (ITD)

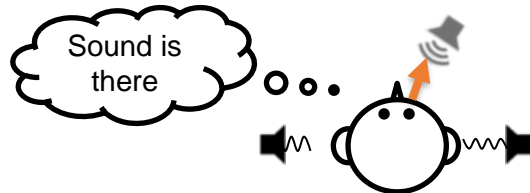
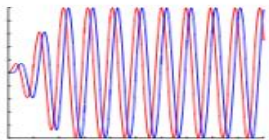


➔ Investigate the causes of asymmetry

Content

Sound localization experiments

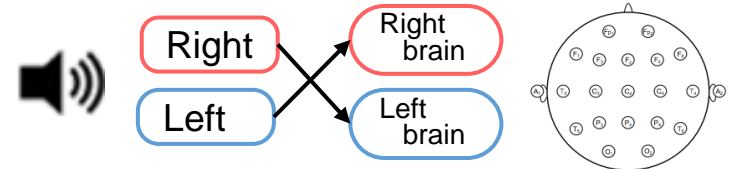
Subjective evaluation of sound localization with processed ITD sound



Investigate the left-right decision points

EEG measurement experiments

- Measuring event-related potentials for sounds heard from the left and right
- Calculate the mismatch negativity



Consider the relationship with hearing and sound localization experiments



Investigate influence of aging by comparing young and old
Propose the sound easy to recognize for the elderly