

ACOUSTIC EFFECTS OF VARIOUS FACE MASKS ON SPEECH SIGNALS

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Introduction

Face masks stifle speech and make it more challenging to communicate, especially for those who have hearing loss. In this study, they used head-shaped loudspeaker and a live human talker to test the acoustic attenuation brought on by various face masks, including medical, fabric, and transparent masks. According to the data, all forms of masks attenuate frequencies above 1 kHz, the attenuation is greatest in front of the talker, and there is a significant difference between different types of masks, particularly fabric masks made of various materials and weaves. Comparing transparent masks to textile and surgical masks, they perform poorly in sound absorption. Most masks have minimal impact on lapel microphones, indicating that current assistive listening and sound reinforcement devices may be useful for verbal communication with masks.

Method

- Collecting data
- Feature extraction
- Calculating attenuation
- Labelling it
- Plotting graph

Plan

- To study more relevant information from the paper
- Coding and labeling with the help of CNN
- Analyzing different masks and try to plot them
- Plotting the attenuation graph

References

- ▶ Ryan M. Corey, Uriah Jones, and Andrew C. Singer , "Acoustic effects of medical, cloth, and transparent face masks on speech signals", The Journal of the Acoustical Society of America 148, 2371-2375 (2020)
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