Supplementary materials for

Impact of face masks on voice radiation

Christoph Pörschmann[1]**, Tim Lübeck**[1,2]**,
and Johannes M. Arend**[1,2]

[1]*Institute of Communications Engineering,
TH Köln - University of Applied Sciences*

[2]*Audio Communication Group,
Technical University Berlin*

christoph.poerschmann@th-koeln.de
tim.luebeck@th-koeln.de
johannes.arend@th-koeln.de

Technology
Arts Sciences
TH Köln

General information

The dataset contains all measured directivities in SOFA format according to the SOFA convention "GeneralFIR". The directivities were measured on a 2702 sampling point Lebedev grid, for Spherical Harmonics transform up to N=44.
The following masks are included:

1. Disposable medical mask: Triple Layer Filter, dustproof, non woven earloop, (manufactured in China, brandname: Arvin, Protection Class DS3)

2. Three-dimensional respirator mask, Protection Class KN 95 (manufacturer: Suzhou Jinruida Protective Equipment Co, Inc.)

3. Fine dust respirator mask, MB 21 , Protection Class FFP 2 (manufacturer: MB Filter Products AB, Sävedalen, Sweden)

4. Microfibre scarf (manufacturer: Rose, material: 100% polyester)

5. Cloth face covering: Single layer cotton (manufacturer: Modeatelier Scharn, Engelskirchen, Germany)

6. Cloth face covering: Hand-made with two layers of cotton (manufacturer: Stoffliebe, Gelsenkirchen, Germany)

The naming is as follows: Each of the masks depicted in Figure 1 is marked with the identifier "maskID". A second comparative measurement is marked with "measurement2". The reference measurement of the dummy head without a mask is denoted as "no_mask_reference".
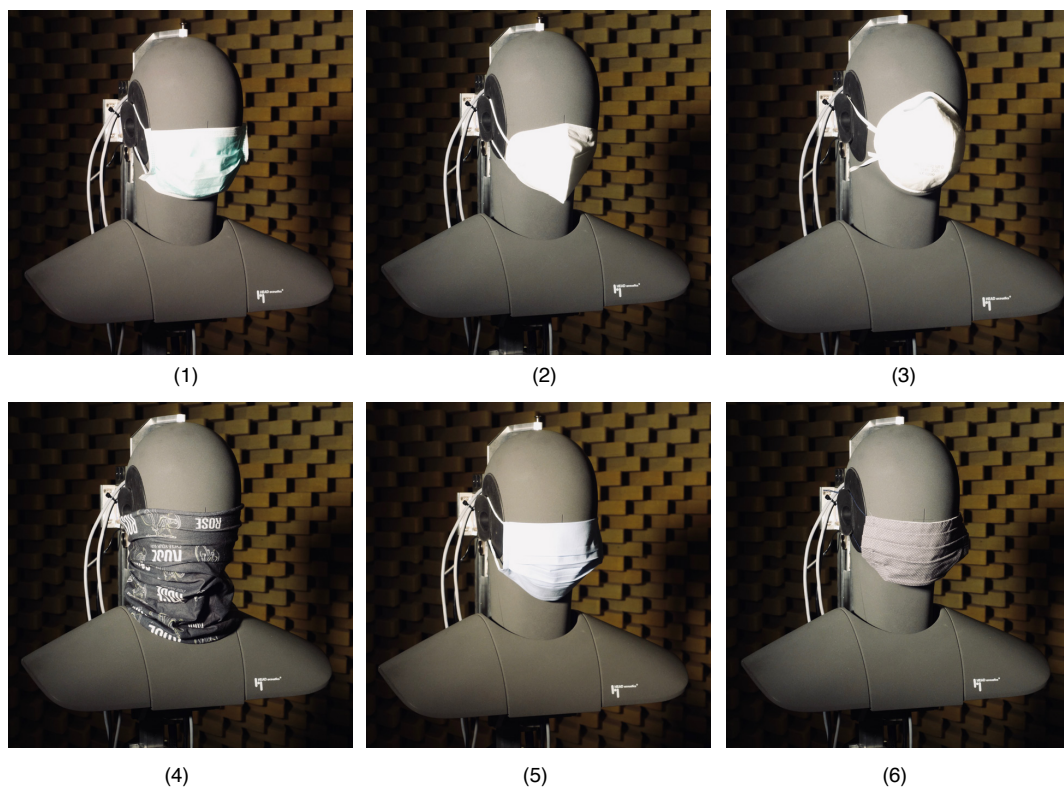

Figure 1: HEAD acoustics HMS II.3 dummy head and mouth simulator with all the masks tested.