

ACOUSTICS2008/3150
The influence of pinna position on head-related transfer function

Przemyslaw Plaskota and Andrzej Dobrucki
Wroclaw University of Technology, Wybrzeze Wyspianskiego 27, 50-370 Wroclaw, Poland

The changes of spectrum of sound at listener ear are one of the major cues for sound source localization. Head Related Transfer-Function (HRTF) describes the influence of torso, head and pinna on sound spectrum. It is possible to recognize HRTF using computational method, e.g. Boundary Elements Method (BEM). The numerical model used for calculation of HRTF is constructed by transfer geometrical shape of head and pinna into numerical domain. Important question during geometry reconstruction process is the accuracy of shape mapping. The pinna has significant influence on HRFT. In the paper, the influence of accuracy of pinna geometry transformation and pinna position on HRTF is presented. Particularly, the pinna flare angle, pinna rotation angle and position of ear entrance were taking into considerations. Measurements have been done on numerical model with the invariable pinna and head shapes, using BEM method.