Sound source localization using scattered acoustic

Sound visualization techniques, which visualize the useful information about sound source such as direction of incident wave from measured signal by directional microphone array, can be applied to visual aids for a hearing impaired person. Beamforming method is a novel way to visualize the sound and is advantageous in rapid realization using fewer microphones. Visual aids are applied as a shape of helmet or glasses, should consider the effect of scattering by visual aids or user's head. In this paper, we modeled the scatterer as a rigid sphere and then used the beamforming method to estimate the direction of incident wave considering scattered acoustic pressure on the surface of rigid sphere as a bearing function. In addition, the resolution analysis was performed and was compared with the conventional beamforming method. Copyright © (2010) by the International Congress on Acoustics.

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