TECHNOLOGY
Audio Camera for Efficient Sound Localization

OVERVIEW

Much as an optical camera creates images from captured light intensity to create a real time picture, an audio camera developed by researchers at the University of Maryland creates a "real time" audio image out of sound arriving from all directions to a specific point – the location of the camera. The audio images can be projected onto a corresponding video image for a complete understanding of sound localization. Audio images are created using a spherical microphone array beamformer and related to video images using standard computer vision techniques.

The foregoing audio camera would be extremely useful in many areas such as the automobile industry, defense applications, etc. In the automobile industry, where auto designers are constantly struggling to produce the quietest luxury cabins, designers could benefit from the identification of the spatial origin of noise in "real-time." Conventional technology does not allow noise detection in "real time" and hence relies on data storage capabilities for post-processing of the detected signal. The novel audio camera described herein alleviates the harsh memory restrictions of conventional technology and provides near infinite duration monitoring of the acoustic field. This technology can also be used by architects to design better concert halls as it gives them the capability to associate sound reflections in different parts of the concert hall without trial and error.

For additional information, please contact the Office of Technology Commercialization, University of Maryland College Park, via e-mail at otc@umd.edu or phone at 301-405-3947.
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APPLICATIONS

surround sound recording
3D audio
ADVANTAGES
Allows for real time tracking of an audio source
CONTACT INFO

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Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Information Technology

EXTERNAL RESOURCES

- US Patent 8,229,134
- US Patent 9,706,292

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