Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

Spherical Signal Processing

Prof. Boaz Rafaely
Ben-Gurion University of the Negev

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Seminarraum N 5.17, Cauerstraße 7

Diskussionsleitung: Prof. Dr.-Ing. W. Kellermann

Signal processing for signals and systems on the sphere have applications in a variety of areas such as earth sciences, image processing, acoustics and array processing, medical imaging, and astrophysics. With spherical signal processing, the signals and systems can be defined in spherical coordinates, and represented using the basis of spherical harmonics. In this talk the topic of spherical signal processing will be presented on a fundamental level, including the spherical Fourier transform, sampling of functions on the sphere, and filtering in the spherical harmonics domain. The talk will conclude with application examples related to audio signal processing and virtual reality.