

Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

Virtual Acoustics – Challenges in simulating Sound for virtual environments

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Virtual Reality (VR) is becoming an ever more important technology in many areas of life and society. Currently, Virtual and Augmented Reality (VR/AR) experience a rapid progress, driven by the entertainment sector (e.g. 3D computer games) and mass-market immersive displays (affordable head-mounted displays). The potential of VR and AR reaches further though, by researching in computer-generated virtual worlds, which in real life is hard to accomplish. This turns VR into an important tool for decision-making, engineering, research and teaching. This talk gives an overview on the simulation of sound in virtual environments, outlining the key challenges in creating and rendering auditory environments. This includes the authoring of scenes, modeling of sound sources, physically-based simulations of sound fields and efficient real-time signal processing techniques for different devices and platforms.