

EEI-KOLLOQUIUM

Spatial Hearing Issues in Sound Reproduction

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Donnerstag, der 26.04.2012, 16⁰⁰ Uhr (Sondertermin)

Cauerstraße 7/9, Hörsaal H6

Diskussionsleitung: Prof. Dr.-Ing. Kellermann

This talk is a whirlwind tour through human auditory perception. First, there is a mention of the actual acoustical cues in a performance venue, and then the ear's effects are discussed. In this, some discussion of loudness comes first, along with a bit of the presumed mechanisms. This will be followed by discussion of binaural auditory cues such as ITD, ILD, and HRTF's, and then a bit of discussion on the mechanisms for direct perception vs. diffuse perception follow. A bit of an introduction to the psychology of hearing will be covered as well, in order to explain what happens to the information present on the auditory nerve. Along the way, requirements for reproducing this in a standard acoustic space will be addressed in several fashions. All in all, this talk will summarize many years of work (starting in the late 1800's) on hearing and spatial sensation, as well as a bit of acoustics, and end with some recommendations on where one might improve the presentation of audio in the modern world, either for rooms or "virtualization" applications.