



**KONFERENZ ZUR NACHT
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Noise Tech- Technische Kontrolle der Musik ohne Abstriche

FREITAG, 10.11.2017 14:00-15:30

Abstract Christian Frick

Theoretical prerequisites for a successful implementation of active noise control subwoofer arrays in event noise management are discussed. According to simulations and field setups, theoretical and practical limitations are discussed.

Large scale sound reinforcement systems being used at outdoor festivals cause significant sound immissions in their surrounding neighborhood. Although modern systems make use of phased array technologies like cardioid subwoofer or endfire arrays, the offsite sound pollution on axis of such systems remains problematic. This is particular true for the low frequency range, where loudspeakers provide limited control of directivity and where sound propagation is not affected by atmospheric absorption and cannot be effectively fought by passive sound protection walls.

Based on mathematical principles valid for phased array loudspeaker systems and referring to the basic principles of wave field synthesis the design criteria for active noise control subwoofer array systems are worked out. On the basis of field testing setups energetic and economic criteria are discussed and the feasibility and benefit of active control arrays is evaluated.