

30. Acoustic localization in theory and in practice

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Acoustic localization is an important tool for measuring the physical properties of bioacoustic signals as well as for studying animal behaviour. This method relies on either listening to the signals emitted by the animal (passive localization) or by attaching a sound source to the animal (active localization). The source is localized using a receiver array where the time lags of the same signal to the various receivers give the animal position. Starting with basic theory of acoustic localization theory we also discuss which receiver array systems are ideal for a specific localization task. The theoretical material is exemplified with different types of hydrophone array systems used to study fish and marine mammal acoustic behaviour.