Universität Stuttgart

Institut für Technische und Numerische Mechanik

Praktikumsversuch

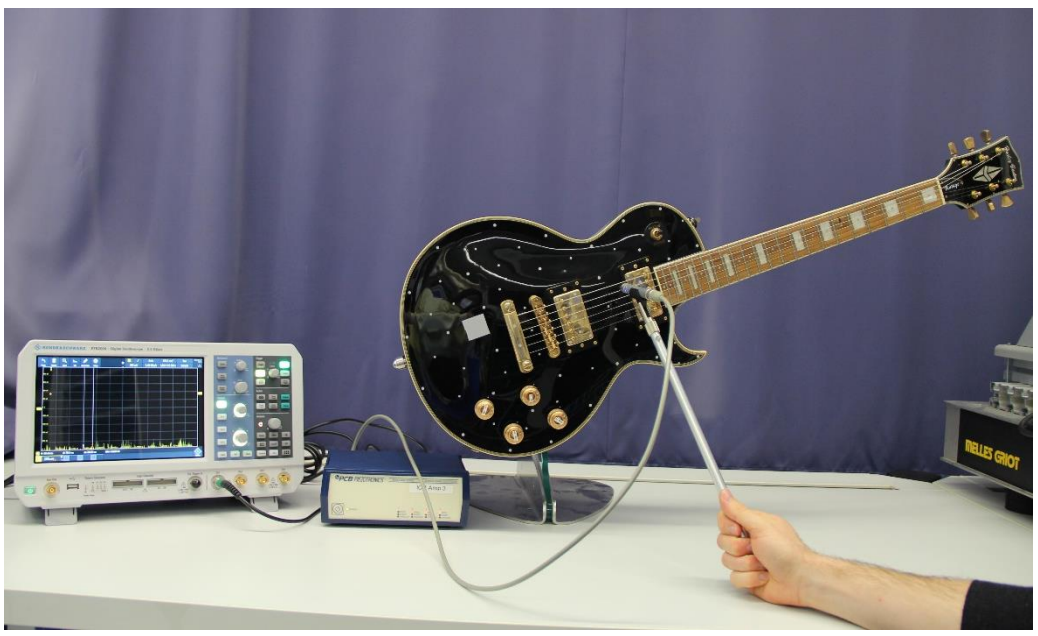
Acoustics and Sound Visualization

MOTIVATION

- practical application of acoustic measurement technologies
- sound source visualization and localization using an acoustic camera
- interpretation of acoustic signals using time-frequency analysis

PROCEDURE

1. calibration of a free-field microphone
2. measurements on a guitar using a free-field microphone
3. signal processing and analysis using an oscilloscope and Matlab
4. familiarization with the Acoutect software for the analysis of the signals of an acoustic camera
5. calibration of the acoustic camera
6. application of the acoustic camera for sound source localization and tracking on several objects



EXPERIMENTAL SETUP

- experimental setup for measuring the sound pressure level with a pre-polarized condenser microphone and an oscilloscope
- experimental setup for sound source localization with an acoustic camera (SevenBel SoundScanner)