Basics of Noise and Its Measurement

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Introduction & Overview

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Resources

- NPTEL courses
  - Video course on Acoustics
  - Web based course on Sound Propagation through Media
  - MOOC on Acoustics

- Virtual laboratory on Acoustics: http://202.3.77.82/

- Dhwani labs: http://home.iitk.ac.in/~ntiwari/
Structure

- Online lectures
- Supplementary material
  - Presentations
- Assignments
  - Multiple choice questions
- Online interaction
  - Tutors and me
- Final examination
Course Overview

- Introduction
- Terminology
- Wave equation
- Measurement of sound
- Instruments
  - Microphones and associated equipment
  - Impedance Tube
Course Overview

- Mathematical methods for data analysis
  - FFT
  - Spectrogram
  - Short-term FFT

- Methods and techniques
  - Free-Field versus reverberant-field
  - Near-Field versus far field
  - Anechoic chamber
  - Weighting
  - Octave bands
Course Overview

- Impedance
  - Measurement methods

- Noise absorption
  - Measurement methods
  - Methods to reduce sound

- Sound in public places
  - Reverb time

- Standards

- Some examples and closure
References