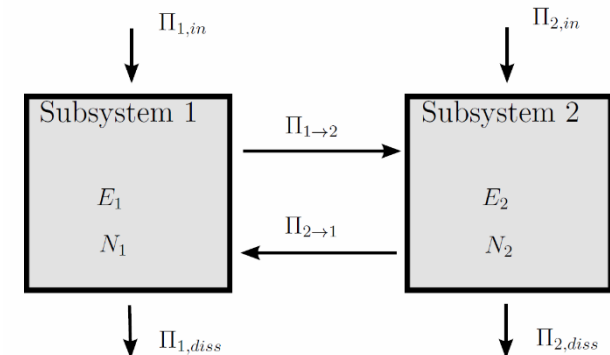


An application for Statistical Energy Analysis (SEA) in Python™

- SEA: Energy method for sound prediction in high frequency domain
- Basic idea of SEA:
 - Partition of a structure into Subsystems that represent groups of similar modes
 - Subsystems store vibrational Energy in modes
 - Energy flow between Subsystems via coupling
- Characteristics of SEA:
 - High degree of averaging over space and frequency
 - Low calculation effort
 - Applicable without knowing exact properties

Project Characteristics

Mechanics: ★★★★★
Mathematics: ★★★★★
Programming: ★★★★★



An application for Statistical Energy Analysis (SEA) in Python™

Project Characteristics

Mechanics: ★★★★★
Mathematics: ★★★★★
Programming: ★★★★★

- Your Task:
 - Comprehend SEA theory
 - Implement different types of subsystems and coupling among them
 - Plate (bending wave)
 - Cavity (longitudinal wave)
 - ...
 - Implement excitations
 - Force
 - Power input
 - 2D user interface
 - Schematic representation of the system
 - Result graphs
 - Possibility to export results (e.g. to .csv)
- Your benefit:
 - Expand your programming skills
 - Gain knowledge in vibro acoustics
 - Method is used in aerospace and automotive industries

