

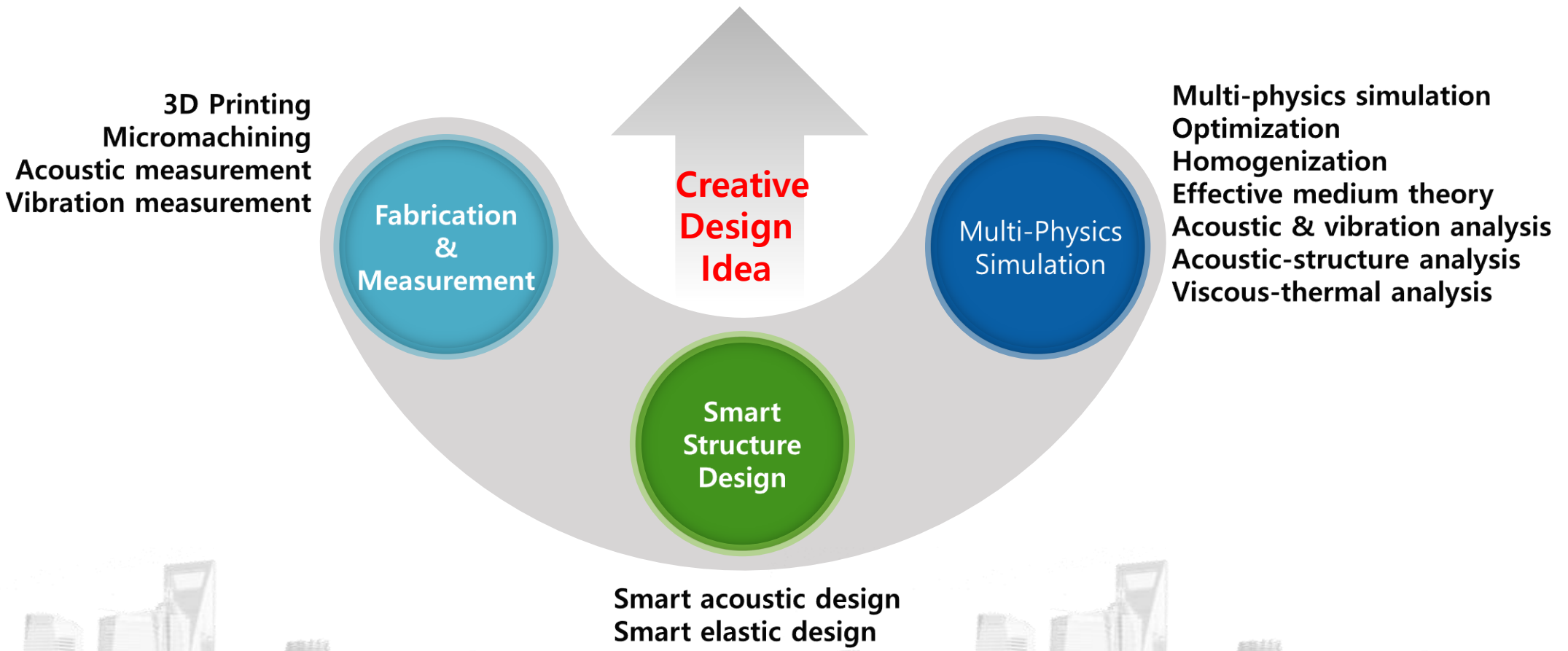


Mechanical Wave Control Lab

송경준

(부산대학교)

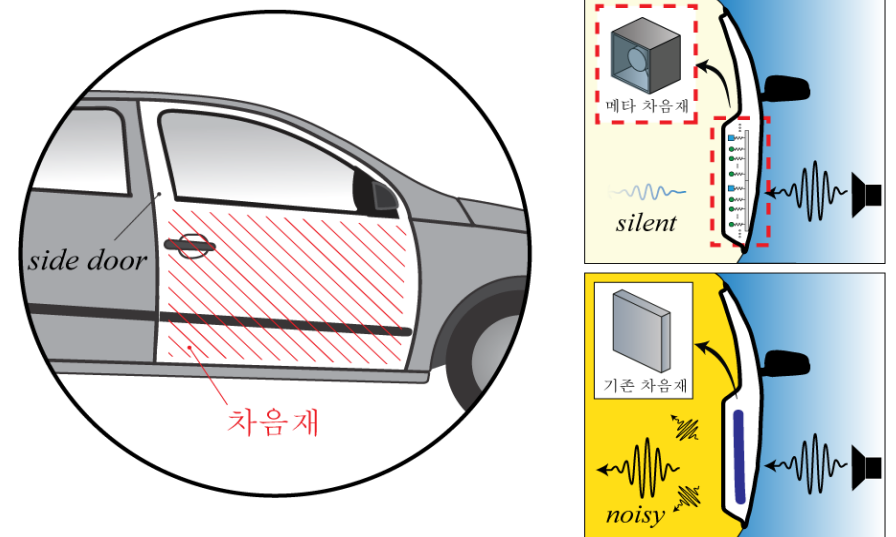
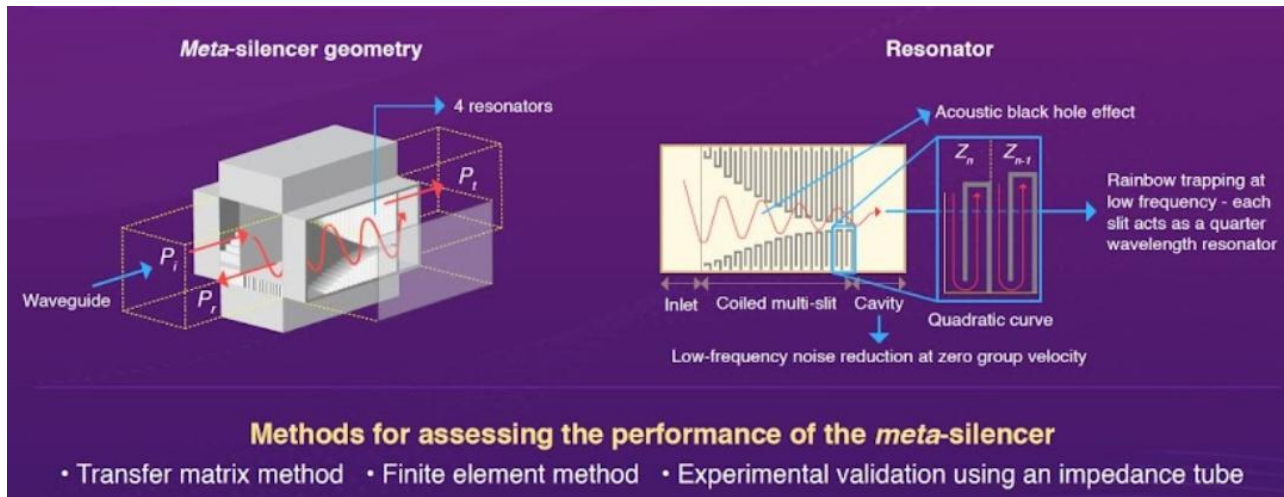
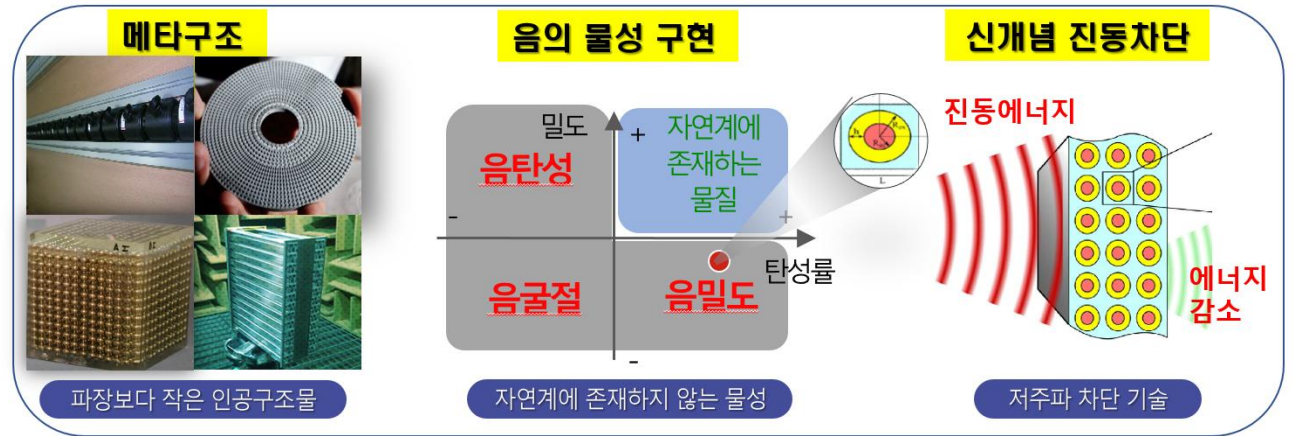
“ Innovative Noise and Vibration Control ”



Research Topic

1. 스마트 구조 및 메타구조 설계

- 극한물성 제어 기술
- 초박형 차음재/흡음재
- 메타구조기반 음향사일런스
- 음향블랙홀기반 진동에너지 저감구조 설계

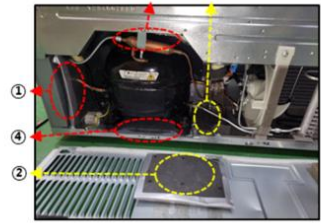


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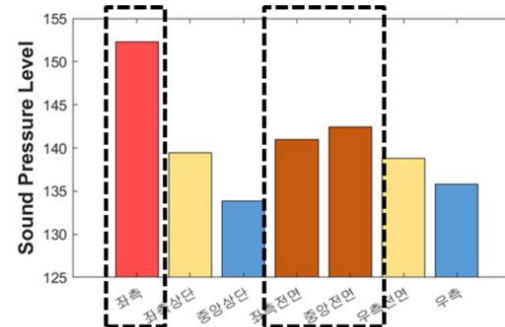
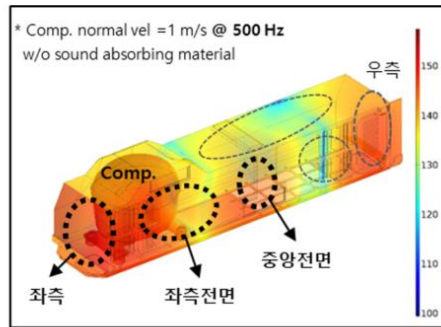
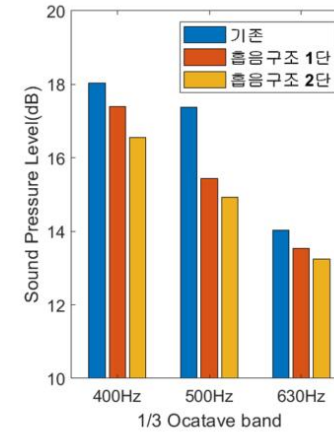
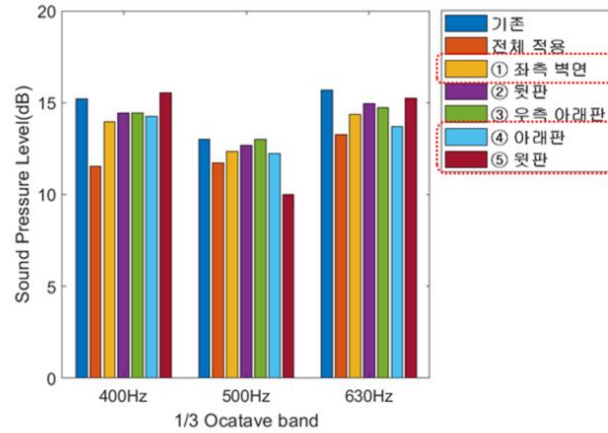
Research Topic

2. 기계시스템 소음/진동제어 (Noise and Vibration Control of Mechanical System)

- 기계시스템 및 모빌리티 NVH 저감기술
- 가전제품 소음 및 진동 방사 소음 제어



<Multi-PP + absorb.>
* Porosity = 0.00785

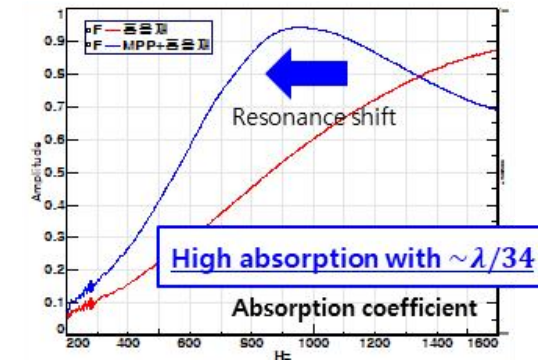
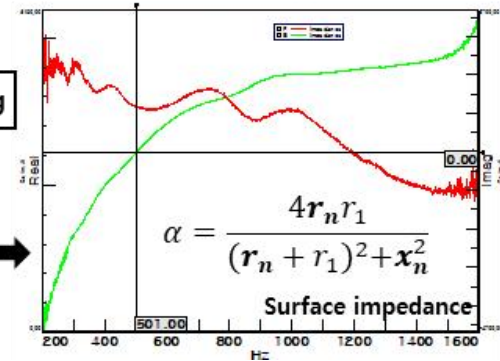
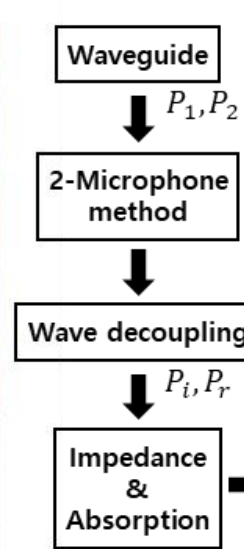
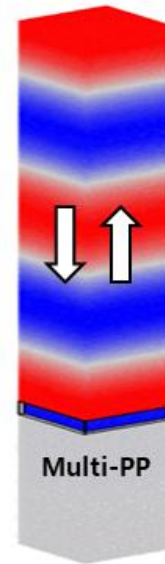


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Research Topic

3. 진동/소음 시뮬레이션 및 측정기술 (NVH simulation and measurement)

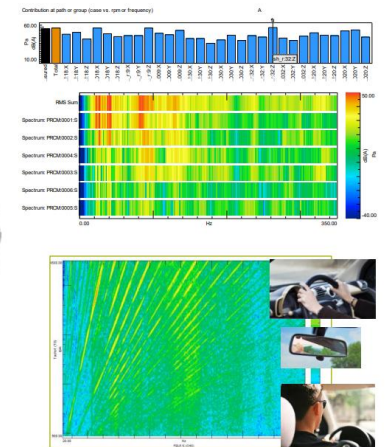
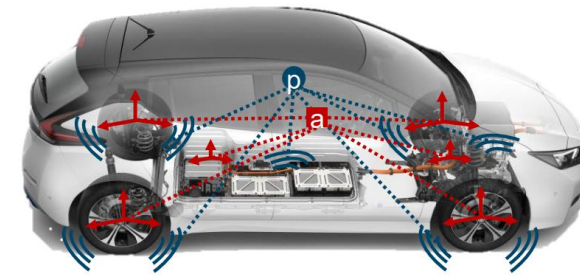
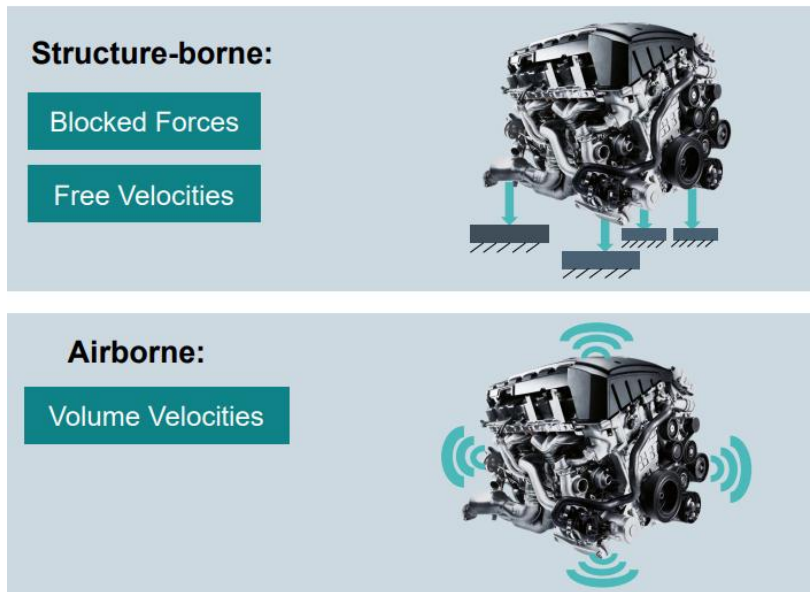
- 시뮬레이션 기반 진동/소음 예측 시뮬레이션
- 머신러닝 & 인공지능 기반 진동/소음 시뮬레이션
- 임피던스 튜브 기반 흡음률/투과율 측정
- 무향실 환경에서 진동/소음 측정기술



Research Topic

4. Transfer Path Analysis기반 NVA 해석 및 실험 (TPA-Based NVH Analysis)

- 기계 시스템 전달경로 분석
- Structure borne and Air borne NVH 해석 및 실험
- Component based TPA / Independent load characterization



Source (F_i, Q_j)

X

Transfer (NTF)

=

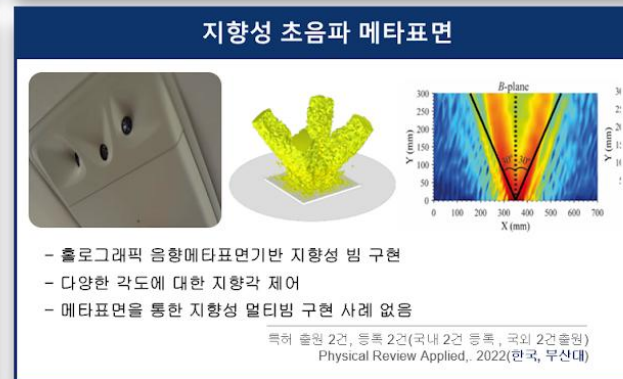
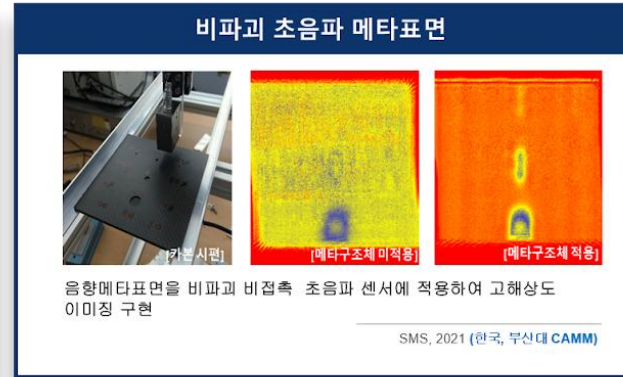
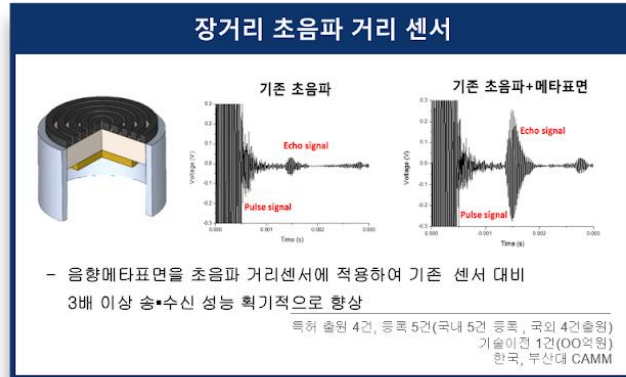
Receiver (y_k)

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Research Topic

5. 음향메타표면 및 홀로그래픽 음향제어 (Acoustic Metasurface and Holographic Acoustic Control)

- 홀로그램 메타표면 기반 음향 빔 형성 및 조향
- 메타표면적용 고출력/고지향 초음파 트랜스듀서



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