

Mini-Symposium on: Advanced SHM and NDE techniques

This conference creates an international mini-symposium to address the current state-of-the-art technologies in nondestructive characterization and monitoring of advanced materials as well as technical challenges concerning nuclear power plant components and electronic devices. The inspection technologies encompass a cradle-to-grave timeline allowing for the monitoring of the fabrication process, assessing initial component quality, in-situ monitoring and system health. The overall theme focuses on identifying and fostering improvements and new innovations regarding theory, hardware, implementation strategies, interpretation of data/results, and automation. This mini-symposium will provide a medium for communication and collaborations among engineers and scientists in the following areas:

- Multi-modal SHM/NDE techniques and applications
- State-of-the art nonlinear ultrasonic techniques
- Innovative non-contact nondestructive techniques for inspection of nuclear power plant components
- signal/image processing, data fusion, data mining, signal/image denoising, artificial intelligence, and deep learning for SHM/NDE
- novel materials and sensors/networks for improving measurement accuracy, reliability, and safety

This mini-symposium aims to provide valuable insights into the current trends, challenges, and future directions in this field, contributing to knowledge exchange and collaboration among researchers.

❖ Mini-Symposium Developer:

- Dr. To Kang, Korea Atomic Energy Research Institute (Republic of Korea)



Dr. To Kang
Korea Atomic Energy
Research Institute, Daejeon,
Korea
Email:
tkang@kaeri.re.kr

❖ Mini-Symposium Chair:

- Dr. To Kang

❖ Paper List:

- Investigating metamaterials for eliminating higher harmonics in nonlinear NDT, Jaesun Lee (Changwon National University)
- A study on vibration characteristics of transparent OLED using finite element method, Yun-Taek Yeom (Dongyang University)
- Optimization of exciting frequency and Lamb wave mode for detecting wall-thinning in plates using scanning laser Doppler vibrometer, Minho Yoon (University of Seoul)
- Laser induced phased array ultrasound for inspection of nuclear power plant components, To Kang (Korea Atomic Energy Research Institute)