

● 발표 주제

폴리머 소재의 모델기반 손상 예지 및 자동차 적용 사례

Model-Based Prognosis of Damage of Metallic and Polymeric Materials in Automotive Applications



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● 발표초록

The presentation considers the inherent aleatory uncertainty and integrity of engineering systems from the early design stage. The designs are proposed to ensure reliability, and using the fatigue damage data for engineering systems, a study on remaining useful life (RUL) prediction is performed. Using design optimization (DO), uncertainty quantification (UQ), reliability- and robustness-based design, and prognostics and health management (PHM) technologies, various practical engineering systems are designed, and for the study of RUL prediction, a technique from previous research that estimates the model parameter by using a Markov chain Monte Carlo (MCMC) sampling method is applied. Finally, through these processes, a study of RUL prediction is performed through the fatigue damage model-based prognosis of modified polyphenylene oxide (MPPO) polymer according to the level of amplitude stress.

