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연구분야

Dynamic behavior of materials under high to hypervelocity impact
 Application of structures and materials for various extreme environments including space environment
 Smart health monitoring impact and extreme environments
 Design structures and materials inspired by biomimetics

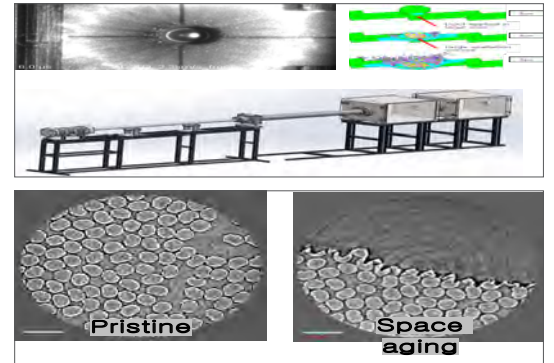
수상

박사최우수발표논문상, 한국과학기술원, 2018
 최우수논문발표상, 한국복합재료학회 추계학술대회, 2018

기계시스템설계연구부

대표연구

- Dynamic behavior of materials under high to hypervelocity impact
 - Design high velocity launcher (< 5km/s) PNU Gun(<800m/s) will be installed soon
 - Simulate impact with numerical modeling
 - Visualize impact event and understand shock propagation
- Application of structures and materials for various extreme environments including space environment
 - Extreme environments(High vacuum, Atomic oxygen exposure, UV light, Thermal shock)
 - Composite materials with advanced fiber reinforcement
 - Structural integrity after aging under extreme environments



주요 연구실적

- High-velocity impact onto a high-frictional fabric treated with adhesive spray coating and shear thickening fluid impregnation, Composites Part B, 107742, 2020
- Behavior of dragon skin flexible metal bumper under hypervelocity impact, International Journal of Impact Engineering, 125, 13-26, 2019
- Hypervelocity impact on flexible curable composites and pure fabric layer bumpers for inflatable space structures, Composites Structures, 176, 1061-1072, 2017
- Thermo-gravimetric analysis method to determine the fiber volume fraction for PAN-based CFRP considering oxidation of carbon fiber and matrix, Composite Part A, 102, 40-47, 2017

주요 연구과제

- 3D 프린트된 고성능 연속섬유 복합재료의 고속 충돌 특성 연구, 한국연구재단, 2021.06~2026.05, 5억원(연속섬유 복합재료, 충돌)
- 신소재가 적용된 생체모방 보호시스템 개발, 한국연구재단, 2018.09~2020.08, 0.9억원(신소재, 생체모방, 충돌)

학회 활동

- 한국복합재료학회 스마트 및 신뢰성 부문 학술이사