



김명현 교수

조선해양공학과
용접 강도 연구실

kimm@pusan.ac.kr
Tel. 051-510-2486

연구분야

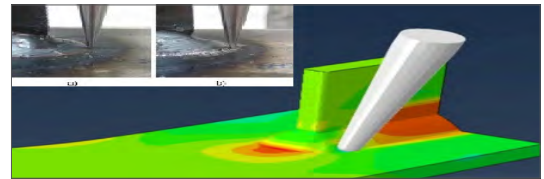
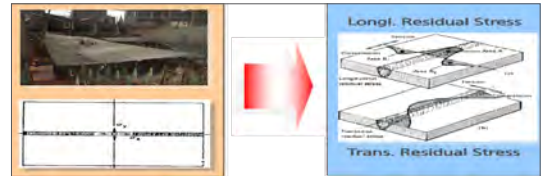
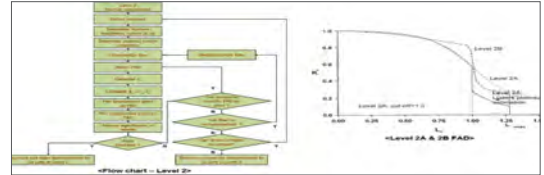
Fatigue design and analysis for large welded structures
Thermal-elasto-plastic analysis for the evaluation of residual stress and distortion
Assessment of fatigue and fracture characteristics of low temperature materials

수상

한국과학기술단체 총연합회 과학 기술 최우수 논문상, 2015
대한 용접·접합학회 최우수 논문상, 2015 / 한국해양산업협회 해양과학기술상, 2013
한국공학한림원 2020 한국 산업을 이끌어갈 100명의 과학 기술 리더, 2013

대표연구

- **Engineering Critical Assessment**
 - Assess the significance of known defect and a failure
 - During operation, to assess flaws found in service and to make decisions as to whether they can safely remain, or whether down-rating/repair are necessary
- **Thermal analysis for the evaluation of residual stress**
 - Assessment of effect of groove shape and heat input on welding residual stress
 - Flaw assessment by using the residual stress distribution obtained from FEA
- **Effect of HFMI treatment**
 - Assessment of effect of HFMI Treatment on fatigue life of steel by using FEA



주요 연구실적

- Fatigue Strength Assessment of Invar alloy Weld Joints using the Notch Stress Approach, Engineering Failure Analysis, Vol. 42, pp. 87-99, July 2014
- Effects of the Crack Tip Constraint on the Fracture Assessment of an Al 5083-O Weldment for Low Temperature Application, MATERIALS, Vol. 10(7), pp. 1-17, April 2017
- Reliability Evaluation of a LNGC Insulation System with a Metallic Secondary Barrier, Composite Structures, Vol. 171, pp. 43-52, July 2017
- Fatigue Strength Assessment of MARK-III Type LNG Cargo Containment System, Ocean Engineering, Vol. 37, pp. 1243-1252, October 2010
- A Comparative Study for the Fatigue Assessment of a Ship Structure by Use of Hot Spot Stress and Structural Stress Approaches, Ocean Engineering, Vol. 36(14), pp. 1067-1072, October 2009

주요 연구과제

- 핵심 부품소재 시스템 신뢰성 및 강도 평가기술, 한국 연구재단, 3년, 6억5천만원(신뢰성 및 강도 평가, 핵심 부품 소재)
- 에탄 운반선용 3.5% Ni강 용접이음부 피로 성능 확보 기술 개발, POSCO, 1년, 1억6천만원(3.5% Ni강, 용접이음부 피로 성능, 에탄 운반선용)
- 선박 및 해양구조물의 용접부 구조 건전성 평가, Class NK, 1년, 1억2천만원(선박 및 해양구조물의 용접부, 구조 건전성 평가)

학회 활동

- International Institute of Welding(IIW), Korean National Delegate(2015~현재)
- International Ship and Offshore Structures Congress(ISSC), Materials and Fabrication Technology, Committee Member(2013~현재)
- International Conference on Ocean, Offshore and Arctic Engineering(OMAE) Materials Technology, Scientific Committee Member(2009~현재)
- 대한용접·접합학회, 학술이사(2011~현재)

산학 협력 활동

- Creative Korea(CKI) 사업 단장(2014~현재)
- 부산대학교 산학협력단 중소기업창업보육센터장(2012~2014)
- 생산기술연구원부산·경남지역 센터장(2011~2013)
- 부산대학교 공과대학교무부학장(2016~2017)
- 부산대학교 창업교육센터장(2012~2014)