



김 문 찬 교수

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연구분야

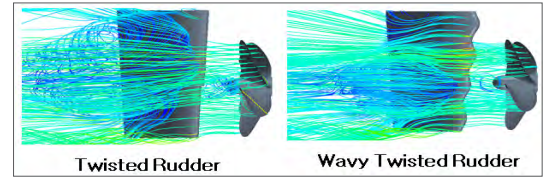
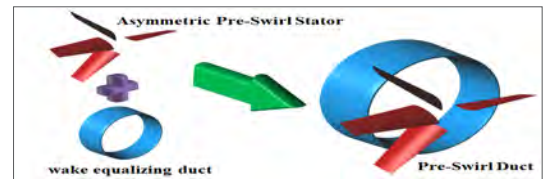
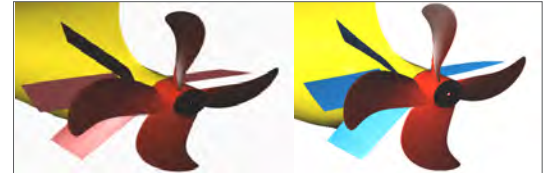
Propulsor System
Energy Saving Device
Armored Vehicle Propulsion Performance

수상

지경부장관 학술상, 2012 / 조선학회 논문상, 2011
연구개발상(단체금상), 1995 / 산업기술상(단체금상), 1993
학술상(은상), 1989 / 학술상(금상), 1988 / 조선학회 논문상, 1998

대표연구

- **Development of Asymmetric Pre-swirl stator**
 - Asymmetric design considering the relationship between propeller rotation and stern flow
 - Recovery of rotational energy loss
 - Reduced production costs and load at stern
- **Development of New type of Pre-swirl Duct**
 - Combination of wake equalizing duct and pre-swirl stator
 - Higher propulsion performance compared to Mewis duct
- **Development of Wavy Twisted Rudder**
 - Based on the shape of fin of humpback whale
 - Stall delay due to more active energy exchange compared to twisted rudder
 - Maintains high lift-drag ratio in high angle of attack



주요 연구실적

- A numerical and experimental study on the performance of a twisted rudder with wavy configuration, International Journal of Naval Architecture and Ocean Engineering, In press, corrected proof, Available online 19 March 2018
- Calculation of ice clearing resistance using normal vector hull form and direct calculation of buoyancy force under the hull, IJNAOE, Vol. 7, No. 4, 2015.07
- Separation of Different Sized Nanoparticles with Time Using a Rotational Flow, Japanese Journal of Applied Physics, Vol. 52, No. 3, 2013.02
- Experimental investigation on stern-boat deployment system and operability for Korean coast guard ship, IJNAOE, Vol. 4, No.4, pp488-503, 2012.12

주요 연구과제

- 에너지 저감 복합추진시스템 개발, (썬성동조선해양, 2년, 2억2천만원(Ring stator, Divergent cap, Rudder Bulb))
- CFD 해석에 의한 워터젯 추진기의 기진력 산정, 한국기계연구원, 1년 3개월, 4천4백만원(CFD, 워터젯, 프로펠러 기진력)
- 선종에 따른 에너지 절약장치 개발, 1년, 1억9천만원(전류고정날개, 모형시험, 포텐셜 코드)

학회 활동

- 대한조선학회 수조시험연구회(2018.03~현재)
- 27th International Towing Tank Conference Propulsion Committee, Committee members(2011~2014)
- 28th International Towing Tank Conference Propulsion Committee, Chairman(2014~2017)

특허

- 선박의 추진력 향상 장치(2015.06)
- 고효율 저소음 조류발전용 터빈블레이드(2012.12)
- 파형 벌브가 적용된 트위스트형 타(2012.09)
- 유선형 벌브가 적용된 트위스트형 타 및 이를 이용한 선박(2012.09)
- Asymmetric preswirl stator of ship(2012.07)