# 해양교통시설물의 파력발전 방오장치 설계

김지윤[1], 조관준[1], 한성훈[1], 오진석+

# Design of Marine Transport Facilitie`s Anti-Fouling System of Wave Power Generation

Ji-Yoon Kim[1]·Kwan - Jun Jo[1]·Sung Hun Han[1]·Jin-Seok Oh+

**ABSTRACT** : For the safety of vessels sailing Marine Transport Facility announces sea route, reefs or shallow water. Photovoltaic, independent power system, installation in the general Marine Transport Facilities to be used in the marine lantern. Due to install of communications, controls, power consumption inceases. And the weather of cloudy day or rainy, generation of electricity is decrease. Recently, power system of marine facility using a hybrid generation system, photovoltaic generation system and wave power generation system. But increase of adhered shellfish inside the water column, is the cause of the reduction of efficiency. So study was conducted to Single channel AFS(Anti-Fouling system). In this paper we offer the Multi channel AFS for Marine Transport Facility and have simulated. Improve the accuracy of the research, we using the result of anode, in the experiment were actually in the buoy, is based on simulation. The experimental results is shown every anode`s, in the Marine Transport Facility, ionization was conducted identically.

**Keywords** : AFS, Multi channel, Single channel, Ionization

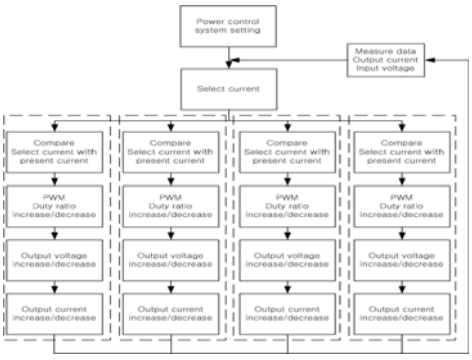


그림 1 파력발전 방오장치의 알고리즘

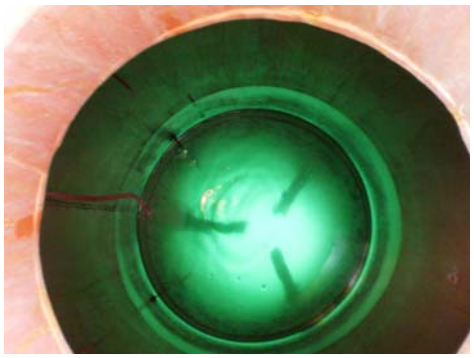

그림 2 파력발전 방오장치의 실험사진

## 후기

본 연구는 국토해양부의 “해양시설물용 Hybrid 전력생산시스템 기술개발” 사업과 교육과학기술부의 “방파제 겸용 파력발전 시스템의 성능향상을 위한 연구” 사업으로 수행된 연구결과임.

## 참고문헌

[1] Kang S. Y, Kim D. J, Kim Y. J and Yoon G. S, (1998) "Analysis of Wave Load and Mooring System for Ocean Monitoring Facilities", Journal of the Korean Society for Marine Environmental Engineering, Vol.1, No.1

[2] 손호인, 이재삼, 조훈희 (2007), “전류불연속 모드로 동작하는 벅컨버터의 새로운 PWM 제어 방식에 관한 연구”, 전력전자학회, 전력전자학회논문지, 제 12권, 제3호

[3] Perdigao, J and Sarmento, A(2003), "Overall- efficiency optimisation in OWC devices", Applied Ocean Research, 25, 157~166

[4] Ryokuseisha corporation(2002),"Measuring of output power of wave activated generator fitted on lighted buoy in the field", Technical report, pp 63-74(텍스트 북)

+ 오진석(한국해양대학교 기관공학부),E-mail:ojs@hhu.ac.kr, Tel: 051)410-4866
1 한국해양대학교 메카트로닉스 공학과