

관할해역 해상교통 모니터링을 위한 기초 연구: 이어도해양과학기지 실험 중심으로

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Preliminary Results of Marine Traffic Monitoring Field Campaigns for the Jurisdictional Sea Area of South Korea:
Monitoring on the Ieodo Ocean Research Station

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요 약 : 우리나라 관할해역까지 확장된 해상교통 모니터링이 필요하여, 장기적으로는 전 세계 원하는 해역의 선박 모니터링이 요구되는 시점이다. 이를 통해서만 우리의 Sea Line의 확보가 가능하며, 해양 경제영토의 확장이 가능하기 때문이다. 이와 같은 목표를 위한 초기 단계로, 경기만 연안 통합모니터링 시험을 거쳐 2013년 11월에는 이어도해양과학기지에서 실험이 이루어졌으며, 이 결과를 이번 학술대회에서 소개하고자 한다.

핵심용어 : 관할해역, 해상교통, 이어도해양과학기지

Abstract : *At the present, ship traffic monitoring and management are focused on the harbor area and the specified coastal zone in South Korea. It, however, is required that the Jurisdictional Sea Area of South Korea is monitored from two viewpoints: Safety and Security. Through a safe sea line (transport route) over the world, it is possible to expand our ocean economical territory. As a first step, we have been in field campaigns for integrated ship monitoring on the Ieodo Ocean Research Station in November 2013 after the first test in Gyunggi Bay.*

Key words : *Jurisdictional Sea Area, Marine Traffic Monitoring*

Introduction & Summaries

This paper describes the preliminary design concept for an integration system of ships obtained from RADAR, Synthetic Aperture Radar (SAR) and Automatic Identification System (AIS) through the field campaigns in coastal waters of Pyeongtaek Port, South Korea (Fig. 1). In general, SAR are used to acquire image data over large coverage area, AIS reports are obtained from ship-based transmitter, and RADAR can monitor continuously ships for a limited area.

We conducted field experiments for displaying and integrating the ships from TerraSAR-X, AIS, and FMCW RADAR. Simultaneous observation of RADAR, SAR and AIS was conducted on the same date as of the SAR acquisition for the purpose to perform an integration and identification test. Figure 2 shows the design of RADAR- and AIS-based ship monitoring system including the visualization module developed on ENC (Electronic Nautical

Chart).

Finally, we will introduce preliminary results obtained from the field campaign of integrated ship monitoring on the Ieodo Ocean Research Station in November 2013.

References

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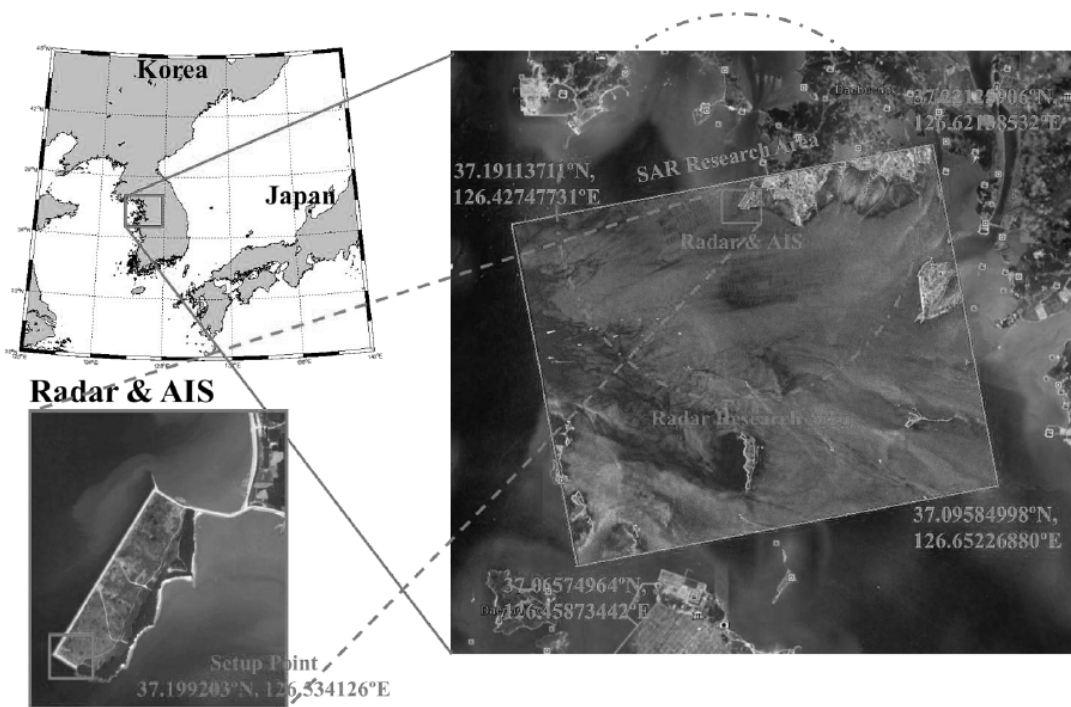


Fig. 1 Test site for ship traffic monitoring using RADAR, AIS and Satellite

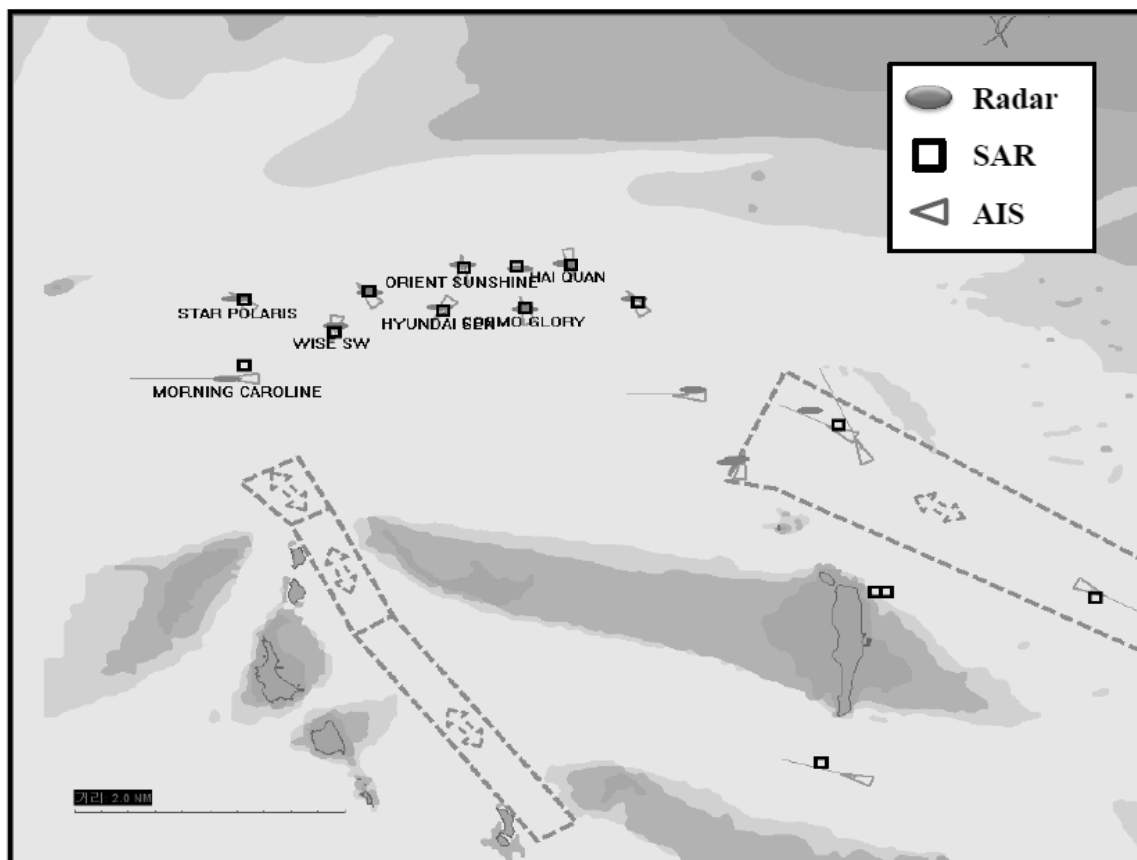


Fig. 2 Display of ships from RADAR, AIS and SAR (2012.07.02 09:20:21)