Title Abstract: VTS intelligent technology

Topic: Managing risk
By: Ms Lina LI | School of Navigation, Jimei University
Contact e-mail: lln@jmu.edu.cn

Lina Li is a Professor of Navigation Institute, Jimei University, Xiamen, China. She received her bachelor's degree from Dalian Maritime University with the specialized subject of ship automation in 1983. Her research interests include the theory and technique of the intelligence traffic system at sea and the ship auto anti-collision avoidance and auto control. The research results obtained by her team for more than 20 years have been successfully applied to the navigation collision avoidance auxiliary decision-making system of 400,000 ton ore sand ship and 300,000 ton crude oil tanker in China. The NDSS has been approved by DNV and CCS.

Abstract:

Due to the fact that the present method adopted for early warning of ship surveillance and risk assessment of collision avoidance within VTS is not so practicable with the real requirement of coast water in China Sea. The personnel on duty adopt the method of manual judgment to observe and judge whether there is collision risk between ships, which undoubtedly increases the working intensity and psychological pressure of the personnel on duty.

A novel method based on the PIDVCA (Personifying Intelligent Decision-making for Vessel Collision and Obstacle Avoidance) which can simulate the behavior of the experienced navigator and can monitor and assess the risk of collision for ships is given and the modeling of the threshold judgement as well as the case study of intelligent early warning ferry navigation system is also discussed. At the same time, this paper points out that MASS / or remote control ship should comply with COLREGs and local rules together with manned ships in the near future, in order to meet the requirements of VTS regulatory normalization and avoid threatening the navigation safety of manned ships. The research fruits will provide a theoretical basis and new ideas for promoting the development of VTS intelligent technology.

Key words: Busy water area Collision risk; Intelligent early warning; risk Assessment; VTS Intelligence

IALA