ARTIFICIAL NEURAL NETWORKS AS AN ALTERNATIVE NAVIGATION SYSTEM IN MARITIME TRANSPORT

Summary

In recent years we can very easily appoint our geographical position on the land, in the air or on the sea. This is a contribution of the great development in various fields of knowledge especially in electronics, information technology and astronomy. This development allowed to construct satellite navigation systems as the American Global Positioning System GPS, The European System Galileo or Russian system GLONASS and others. These systems are highly developed and accurate. However, they are flexible on emergency because of use a complicate techniques in. As an example, we can display the situation in the Balkans war. The American troops have been for more than 10 minutes without satellite signal and the military units did not know the point at which they are located. This example shows that relying solely on the satellite navigation systems, exposes
the danger caused by attacks from the enemies on satellite or connect to its signal, which allows the encoding information and distortion its way.

The practice shows that the Global Navigation System GPS used today on most marine vessels is less precise than on land. This is due, inter alia, the specific movement of the vessel at sea, sea storms, which tend to be stronger at sea as well as a small number of receivers in the vicinity of the ship. For all these reasons, there is a need to find alternative systems of navigation at sea. Such a system should be automatic and independent of external factors. In this article will be propose such system which consist of artificial neural networks. Neural network could get information from certain sources on a ship for example from radar, then process them and give out the position of the boat. Such system could be a good alternative to GPS.

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