

SOLUTION TO THE PROBLEM OF INTERVENTION TO REFUGEE BOATS IN SEAS THROUGH MIXED INTEGER MATHEMATICAL MODEL

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Abstract

Today, humans are obliged to immigrate from their home-countries to another country because of war and internal disturbance. They use illegal ways for migration and unwanted results are often faced. At this point, one of the greatest results faced is originated from the refugees who migrate through seaways. In the last year, thousands of illegal immigrants have been captured and hundreds of them died on their way due to the reasons like sink of boat and climatic conditions. Within the scope of the study, a mixed integer mathematical model was developed in order to intervene fast to the immigrant boats on seas and to prevent smuggling. The model was tested on a sample dataset. As the result, the needed number of marine vessels for fast intervention to immigrant and smuggling boats, and the shortest routes of these vessels were tried to be optimized through the mathematical model.

Keywords

Moving-Target TSP, Integer Programming, Mathematical Modelling.