Modeling of the Objects Drifting on the Sea Surface

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Due to increase in transport workload in the water area, cases when oily substances get into the sea have become more frequent. Since the problem of spills is actual these days and it is of interest to us, slick pollution was selected as the object of modeling. To find the sources of pollution, as well as to predict the dynamics of oil slicks on the sea surface, we decided develop the algorithm, which would be based on a new mathematical model of the slick movement. We used radar images from the satellite to test our algorithm. We took into account all the parameters that affect the movement of the slick and included them in our mathematical model. With the help of our spill database we checked the accuracy of the algorithm. The tested algorithm formed the basis of the automatic modeling program. The program takes meteorological data and builds trajectory of the slick. As a result, the program displays the final coordinate. The program is intended for oil companies, environmental monitoring and coast guard services.

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