THE ANNALS OF "DUNĂREA DE JOS" UNIVERSITY OF GALAŢI
FASCICLE X, APPLIED MECHANICS, ISSN 1221-4612
2009

Oil Spill Propagation in Black Sea's Marine Environment

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SUMMARY

The last decades continuously increasing of the economical activities in the coastal environment of the Black Sea is obviously leading to the enhancement of the pollution risks due to accidental oil spillages. Starting from the fact that most accidents were generated by an inadequate forecast of the wave conditions, the aim of the present work is to develop a methodology based on spectral phase-averaging wave models able to predict the wave propagation in the coastal environment. The wave induced currents that may be a key factor in driving the pollution are also assessed. This implies both the Stokes drift and the wave induced nearshore currents. The surface streaming effect due to the molecular viscosity was also accounted for. Finally, as a case study, the propagation of the pollution towards the Romanian coast generated by a hypothetic accident at the Gloria drilling platform was assessed.

Keywords: *environmental alerts, oil spills, waves, wave induced currents, numerical models*

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