



## **On the possibility of the use of theoretical models to predict the sediment transport due to extreme waves action**

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In this report we give the concise characteristics of the modern theoretical models prediction the sediment transport. We present some new experimental results concerning safe assessment of the sediment transport due to extreme waves action. Three of the most reliable program packages are considered: LITPACK (DHI, Water and Environment, Denmark), SMS (EMRL, Brigham Young University, USACE-WES, and FHWA, USA), and DELFT-3D (Delft Hydraulics, Netherlands).

By comparison of the numerical data obtained with the help of the mentioned packages with our experimental results we made the conclusion all of these may be more or less applied to get the qualitative features of the specific problem. However there was no remarkable coincidence between the numerical and the experimental results. It must be noted that to use these packages successfully one must have a considerable experience in applied hydrodynamics activity to make the right choice of the used package modules and to specify correctly the initial and boundary conditions.