P7. SOME FEATURES OF THE EQUILIBRIUM COASTAL PROFILE FOR DIFFERENT INITIAL BED SLOPES BASED ON MODELLING STUDY

Dmitry Korzinin[1], Igor Leontiev[1]

[1]*P.P.Shirshov Institute of Oceanology, Russian Academy of Sciences, Russia*
korzinin@ocean.ru

Modelling study of the equilibrium profiles formed on sandy coasts of different bed slopes and grain sizes under the various wave conditions was realized by using the CROSS-P and Xbeach morphodynamic models. A special criterion taking into account a total volume of bed deformations per one hour was suggested to determine the conditions of profile stabilization. For both models the time scales of equilibrium profile formation were found to be the same. However, the deformation magnitudes differed significantly. Bed deformations were computed on the whole profile length over the 200-hours duration of wave impact. It was concluded that both models predict a trend of the bed slope toward a stable value. CROSS-P model shows the widening of accumulative terrace during the profile evolution. The mean slope of the equilibrium profile was found to depend on the initial bed slope.