THE INVESTIGATION FOR COSTAL PREFABRICATED CONCRETE SLAB REVETMENT SLOPES, DAMAGES AND THE AUTHOR'S PROPOSALS

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Summary

The paper presents the investigation results about the characteristics of prefabricated concrete slab revetment slopes in our country and in The Netherlands; the failure phenomena of coastal revetments in our country; the theoretical calculation methods and the practical calculation examples; two failure causes of coastal prefabricated concrete slab revetments: firstly, the design wave height is smaller than the real wave height on coastal revetment slopes in the practice; secondly, there are not any hole in the prefabricated concrete slabs to release the uplift negative wave pressure. The authors offer four large proposals: to expand the marine wave observations, especially for the wave height observations at the toes of coastal protection structures. To review the technical stipulations in order that to re-define the calculation process of design wave height for sea dykes and revetments as the same as the developed countries. To suggest the repairing and enhancing safety measures for the existing coastal revetments; to propose the authorities that only the prefabricated concrete slabs having the holes to release the uplift negative wave pressure can be used for the new projects; the fifth propose: A research program should be made by the authorities for innovating and offering the new products of prefabricated concrete slabs having the holes to release the uplift negative wave pressure in order that the new ones can be sustainable in the high waves caused by the 12 grade typhoons as well as by the higher grade typhoons taken place.

Keywords: *Sea dykes, coastal revetments, coastal revetment damages, prefabricated concrete slabs, uplift negative wave pressure, design wave height, marine wave height observations.*