Geophysical Research Abstracts,
Vol. 10, EGU2008-A-05268, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-05268
EGU General Assembly 2008

Improvement of the wave-protective features of the partly-permeable breakwater pier (an experimental study)

E. Kamynin, A. Revyakin, I. Nudner, **V. Maximov**, D. Babchik

Research Center of Capital Construction, St. Petersburg, Russian Federation (wmaximov@mail.ru)

The wave-protective features of the breakwater pier models were studied. The experiments were fulfilled in the hydro flume having 40 m length, 1.0 m width, and 1.2 m height. The periodic waves were produced by the shield-type wavemaker. The tests were carried out at the three depths: 25 cm, 37.5 cm, and 50 cm. There were for each depth the different constructions studied. At 24 cm depth there was the structures consisting of the three series with the perforated front wall. In the other hand the area at the wall up to 20 cm level from the bottom was filled up with the stone. The models constructed from the prefabricated perforated ferroconcrete frames with or without the concrete units infilling were studied. The lateral dimension of the construction was changed. At 37.5 cm depth there were the structures consisting of the ferroconcrete frames with the different infilling - stone, concrete blocks, and fashioned units. The permeability was different in all cases. At 50 cm depth the piled structures with the construction of a shield having various deepening at the windward side were investigated. The heights of waves passing through the structure and reflected from its face were measured. The analysis revealed the most improved structure possessing the good wave-protective features.