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The action of the solitary wave on a system of the obstacles consisting from the permeable thin wall and following behind it the rectangular pontoon

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We fulfill an experimental research concerning the solitary wave action on the partially submerged into the water rectangular pontoon that placed behind the permeable thin wall. The bottom has a slope of 1:50 in the location of obstacles. The experiments were performed at the hydro flume that was equipped with the vacuum wavemaker to solitary wave generation. We varied the initial wave height over the range 5 cm to 20 cm and measured the wave height and its pressure. The wave height was measured at 5 places: in front of the slope, at the thin wall, on the front and rear faces of the pontoon, and at some distance that was equal to the conventional solitary wave length. The wave pressure was measured at 6 points of the pontoon surface: two on each vertical side (at the level of the undisturbed surface water and at the bottom of the pontoon) and along the bottom of the pontoon.
We use in this research three types of the thin permeable walls, their permeability varies over the range 0.1 to 0.4. The obtained experimental data were compared with the theoretical data calculated by the simple theoretical model. The limits of this model applicability were discussed.