Hydraulic Response of Rubble Mound Breakwaters

scale effects - berm breakwaters

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Appendix H

Conventional Breakwater, Conventional Overtopping Plots

In this chapter the dimensionless overtopping plots using the conventional approach are given for the four tested cross sections. This way of plotting the data will in the present case underpredict the scale effects, as the extreme waves in small scale were relatively larger than in small scale. More realistic values of the scale effects are given in the plots in section 10.5.5.
Figure H.1
Comparison of dimensionless overtopping for high water level (small freeboard) and low wall.
Figure H.2

Comparison of dimensionless overtopping for low water level (large freeboard) and low wall.

- $s_{wp} = 0.045$: WL = 3.51 m; $R_c = 0.69$ m; $A_c = 0.89$ m
- $s_{wp} = 0.030$: WL = 3.51 m; $R_c = 0.69$ m; $A_c = 0.89$ m
- $s_{wp} = 0.020$: WL = 3.51 m; $R_c = 0.69$ m; $A_c = 0.89$ m

Conventional Breakwater, Conventional Overtopping Plots

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Comparison of dimensionless overtopping for low water level (large freeboard) and low wall.

- $s_{wp} = 0.045$: WL = 3.51 m; $R_c = 0.69$ m; $A_c = 0.89$ m
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- $s_{wp} = 0.020$: WL = 3.51 m; $R_c = 0.69$ m; $A_c = 0.89$ m
H.2 Normal Wall

Figure H.3
Comparison of dimensionless overtopping for high water level (small freeboard) and normal wall.
Conventional Breakwater, Conventional Overtopping Plots

Figure H.4
Comparison of dimensionless overtopping for low water level (large freeboard) and normal wall.
Comparison of dimensionless overtopping for high water level (small freeboard) and high wall.

Figure H.5
Conventional Breakwater, Conventional Overtopping Plots

Figure H.6
Comparison of dimensionless overtopping for low water level (large freeboard) and high wall.

\[ q / \left( g H_{m0}^3 \right)^{1/2} \]

\[ \gamma = 0.508 \quad (\gamma_s = 1.115) \]

\[ \gamma = 0.500 \quad (\gamma_s = 1.097) \]

\[ \gamma = 0.456 \quad (\gamma_s = 1.000) \]
**H.4 High Recurved Wall**

![Figure H.7](image)

Comparison of dimensionless overtopping for high water level (small freeboard) and high recurved wall.

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Figure H.8
Comparison of dimensionless overtopping for low water level (large freeboard) and high recurved wall.