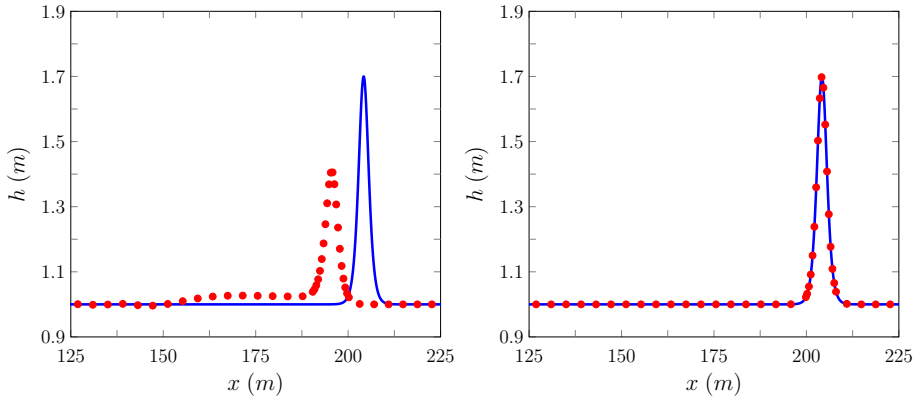
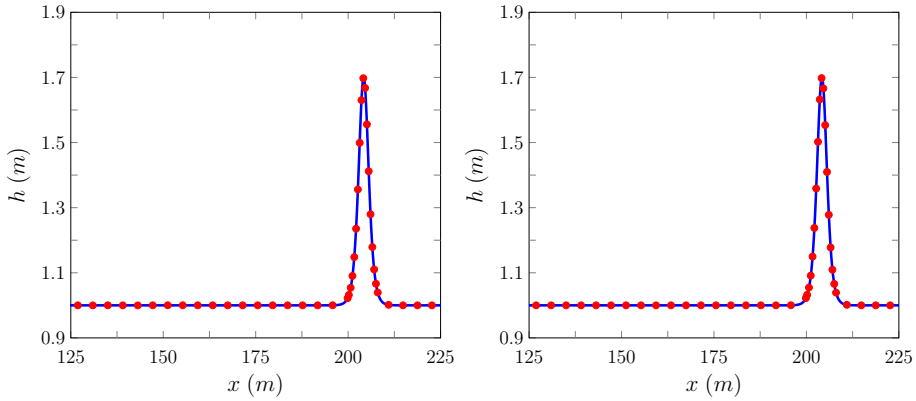
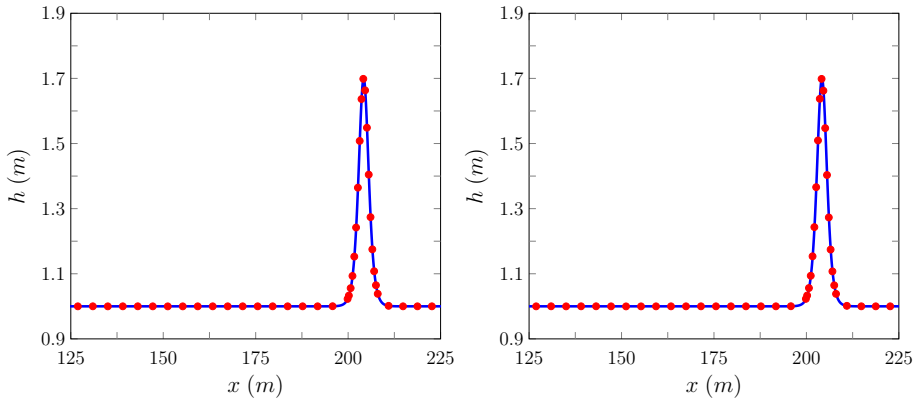


(a) FDVM_1 (b) FDVM_2

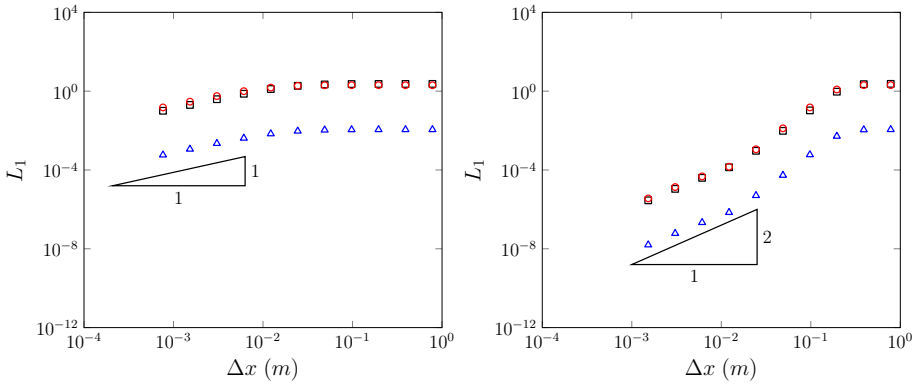


(c) FEVM_2 (d) FDVM_3



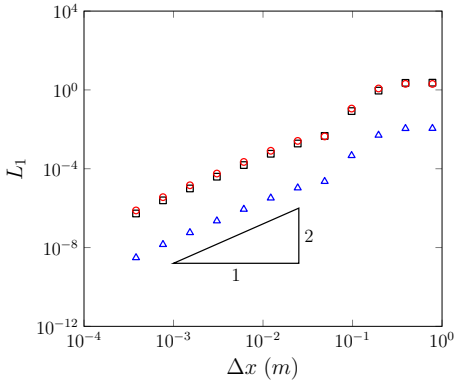
(e) $\mathcal{D}$ (f) $\mathcal{W}$

Figure 1: Comparison of the analytic solution (—) and numerical solution with $\Delta x = 100/2^{11} m$ (●) for the soliton problem at $t = 50s$ for all methods.

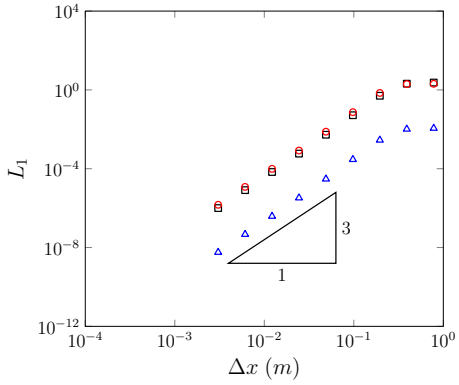


(a) FDVM_1

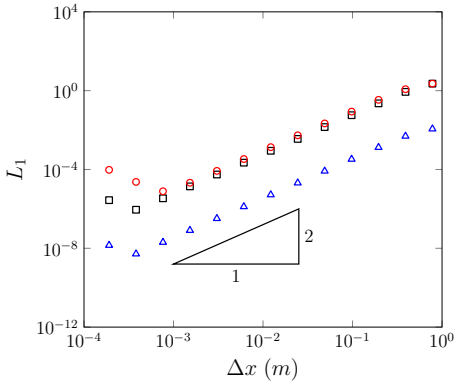
(b) FDVM_2



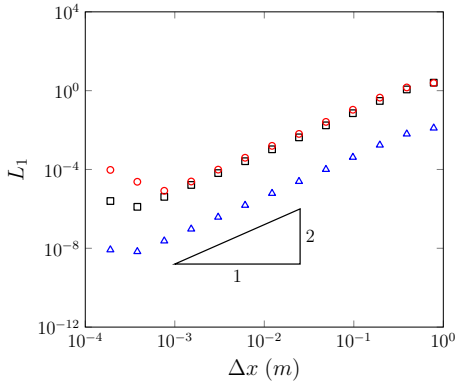
(c) FEVM_2



(d) FDVM_3

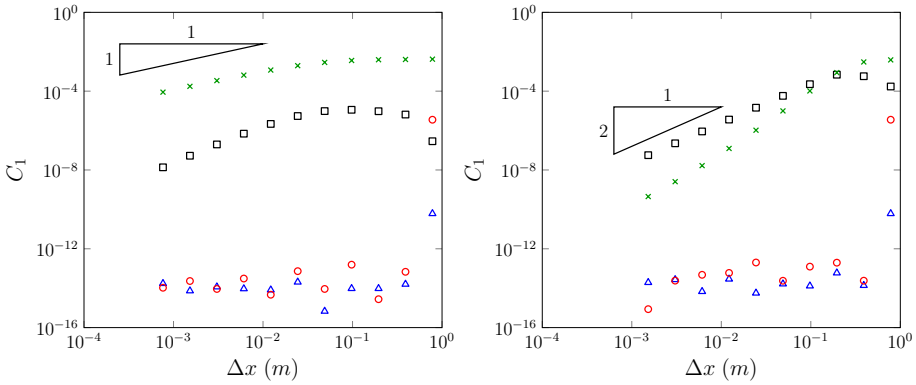


(e) $\mathcal{D}$



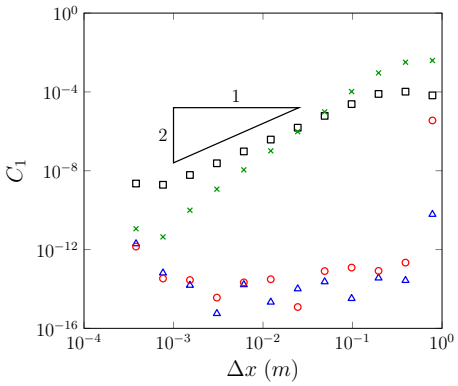
(f) $\mathcal{W}$

Figure 2: Convergence plots as measured by the L_1 norm for h (△), u (□) and G (○) for the soliton problem for all methods.

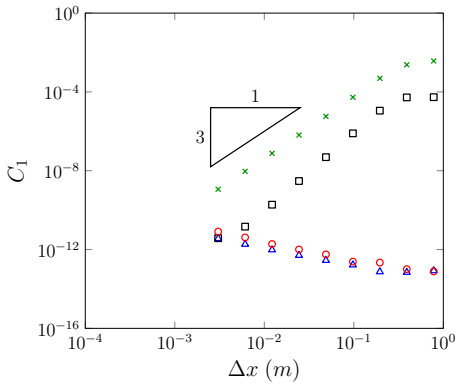


(a) FDVM_1

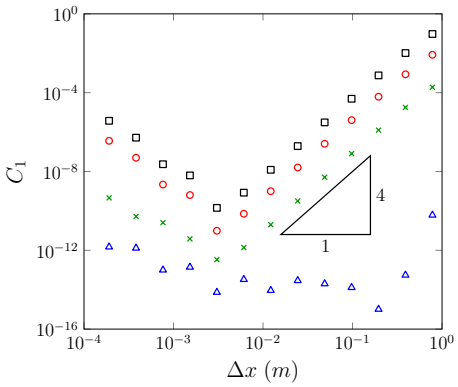
(b) FDVM_2



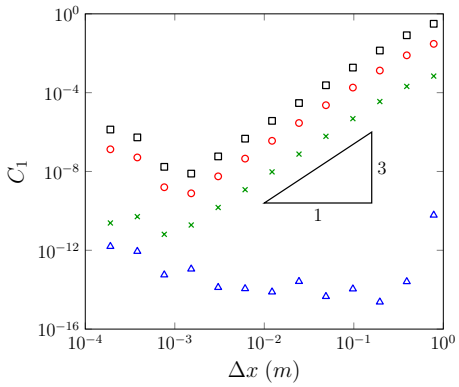
(c) FEVM_2



(d) FDVM_3

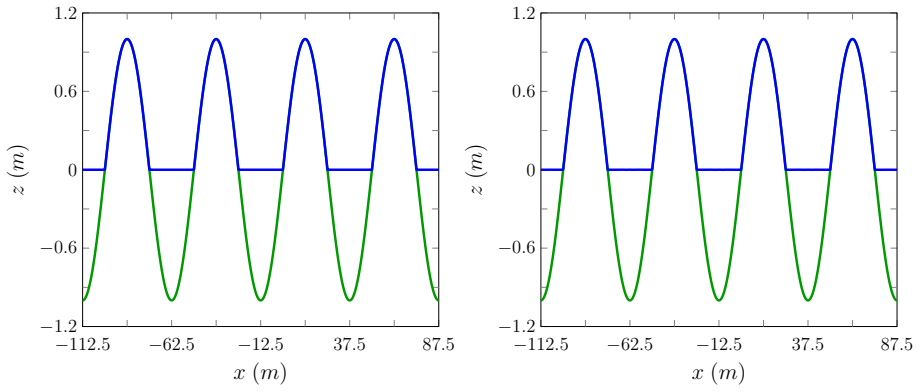


(e) $\mathcal{D}$



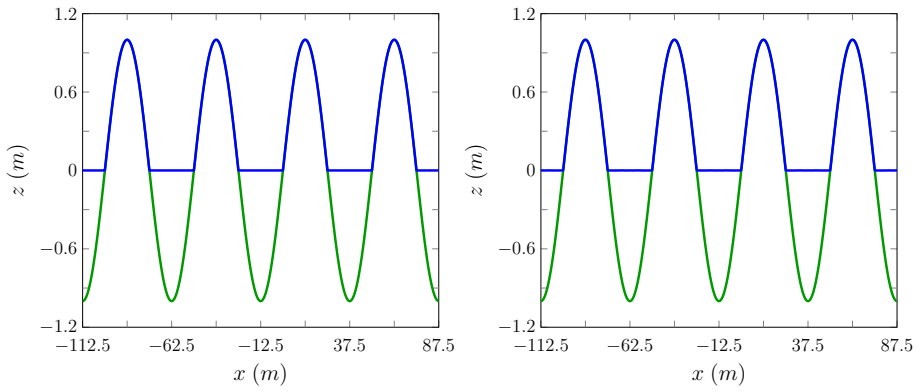
(f) $\mathcal{W}$

Figure 3: Conservation plots as measured by C_1 for h (△), uh (□), G (○) and $\mathcal{H}$ (×) for the soliton problem for all methods.



(a) FEVM_2 well balanced

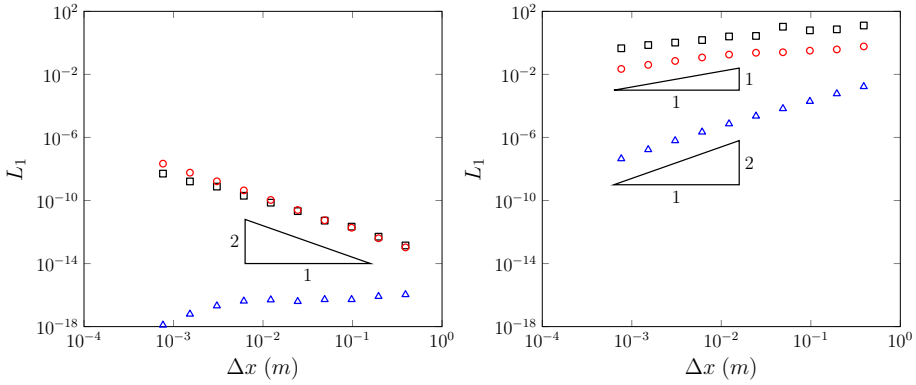
(b) FEVM_2 not well balanced



(c) FDVM_2 well balanced

(d) FDVM_2 not well balanced

Figure 4: Comparison of the analytic solution (—) and numerical solution with $\Delta x = 100/2^{10} m$ (—) for the lake at rest problem at $t = 10s$ for all methods.



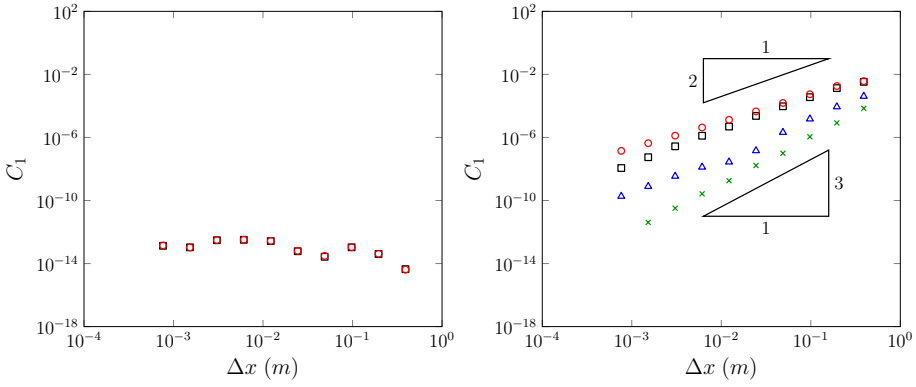
(a) FEVM$_2$ well balanced

(b) FEVM$_2$ not well balanced

(c) FDVM$_2$ well balanced

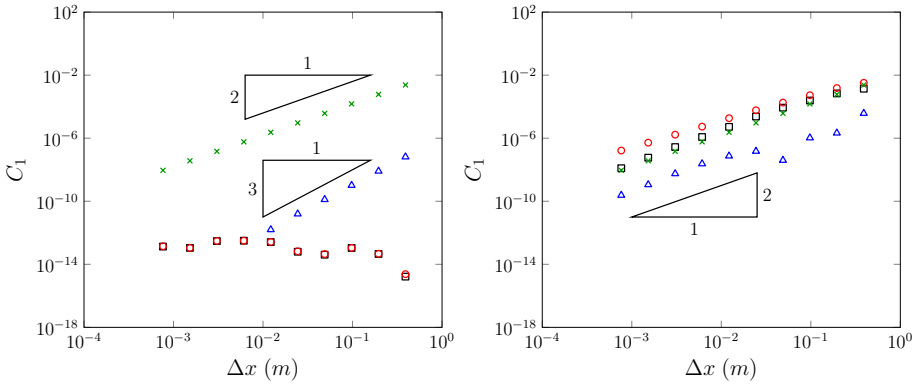
(d) FDVM$_2$ not well balanced

Figure 5: Convergence plots as measured by the L_1 norm for h (△), u (□) and G (○) for the lake at rest problem at $t = 10s$ for all methods.



(a) FEVM$_2$ well balanced

(b) FEVM$_2$ not well balanced



(c) FDVM$_2$ well balanced

(d) FDVM$_2$ not well balanced

Figure 6: Error in conservation plots as measured by the C_1 norm for h (△), u (□) and G (♢) for the lake at rest problem at $t = 10s$ for all methods.