



Supplement of

Laboratory and numerical experiments on stem waves due to monochromatic waves along a vertical wall

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Supplement

All the figures for the experimental and calculated data are presented in this supplement.



Figure S1. Normalized wave heights along the wall for the cases of MSS1 ~ MSS4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S2. Normalized wave heights normal to the wall at x = 6L for the cases of MSS1 ~ MSS4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S3. Normalized wave heights normal to the wall at x = 15L for the cases of MSS1 ~ MSS4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S4. Normalized wave heights along the wall for the cases of MSM1 ~ MSM4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S5. Normalized wave heights normal to the wall at x = 6L for the cases of MSM1 ~ MSM4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987). The red line represents the stem waves. The stem width λ_s is determined using Eq. (13).



Figure S6. Normalized wave heights normal to the wall at x = 15L for the cases of MSM1 ~ MSM4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987). The red line represents the stem waves. The stem width λ_s is determined using Eq. (13).



Figure S7. Normalized wave heights along the wall for the cases of MSL1 ~ MSL4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S8. Normalized wave heights normal to the wall at x = 6L for the cases of MSL1 ~ MSL4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987). The red line represents the stem waves. The stem width λ_s is determined using Eq. (13).



Figure S9. Normalized wave heights normal to the wall at x = 15L for the cases of MSL1 ~ MSL4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987). The red line represents the stem waves. The stem width λ_s is determined using Eq. (13).



Figure S10. Normalized wave heights along the wall for the cases of MLS1 ~ MLS4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S11. Normalized wave heights normal to the wall at x = 6L for the cases of MLS1 ~ MLS4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S12. Normalized wave heights normal to the wall at x = 15L for the cases of MLS1 ~ MLS4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S13. Normalized wave heights along the wall for the cases of MLM1 ~ MLM4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S14. Normalized wave heights normal to the wall at x = 6L for the cases of MLM1 ~ MLM4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987). The red line represents the stem waves. The stem width λ_s is determined using Eq. (13).



Figure S15. Normalized wave heights normal to the wall at x = 15L for the cases of MLM1 ~ MLM4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987). The red line represents the stem waves. The stem width λ_s is determined using Eq. (13).



Figure S16. Normalized wave heights along the wall for the cases of MLL1 ~ MLL4. Solid circle: measured, solid line: present numerical, dashed line: analytical (Chen, 1987).



Figure S17. Normalized wave heights normal to the wall at x = 6L for the cases of MLL1 ~ MLL4. Solid symbol: measured, solid line: present numerical, dashed line: analytical (Chen, 1987). The red lines represent the stem waves. The stem width λ_s is determined using Eq. (13).



Figure S18. Normalized wave heights normal to the wall at x = 15L for the cases of MLL1 ~ MLL4. Solid circle (measured), solid line (present numerical), dashed line (analytical, Chen, 1987). The red lines represent the stem waves. The stem width λ_s is determined using Eq. (13).