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The study of ring surface water wave generated by impacting droplets of using Free surface synthetic schlieren (FS-SS) technique.

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The surface water wave can be easily seen in everyday life. Extracting crucial wave characteristics is however challenging since the wave propagation phenomena occurs so rapidly to measure its characters. Free surface synthetic schlieren (FS-SS) offers a great visualization technique of surface water disturbance using invert gradient algorithm of background patterns. In this study, a ring surface water wave generated by falling water droplet was investigated using MATLAB PIVlab and PIVmat toolboxes to reconstruct 3D surface of the ring wave. Wave properties including wave packet profile and phase speed were readily extracted from the technique. The wave pattern could salon be further used in determining surface tension and wave damping coefficient.

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