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surface water wave reconstruction using MATLAB

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Measuring surface water wave properties such as amplitude and wavelength can be difficult when the wave amplitude is very small. The digital image correlation (DIC) MATLAB program makes it possible to analyze such surface wave properties. The technique relies on analyzing of pattern displacement images due to surface perturbation of random patterns at the bottom of the water container. This method can be used to recreate surface wave either in snapshot or in motion, in which the wave's amplitude the wavelength information can be extracted from. This method can also be used in determining surface tension of other transparent liquid media.

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