

Wave curves: Simulating Lagrangian water waves on dynamically deforming surfaces

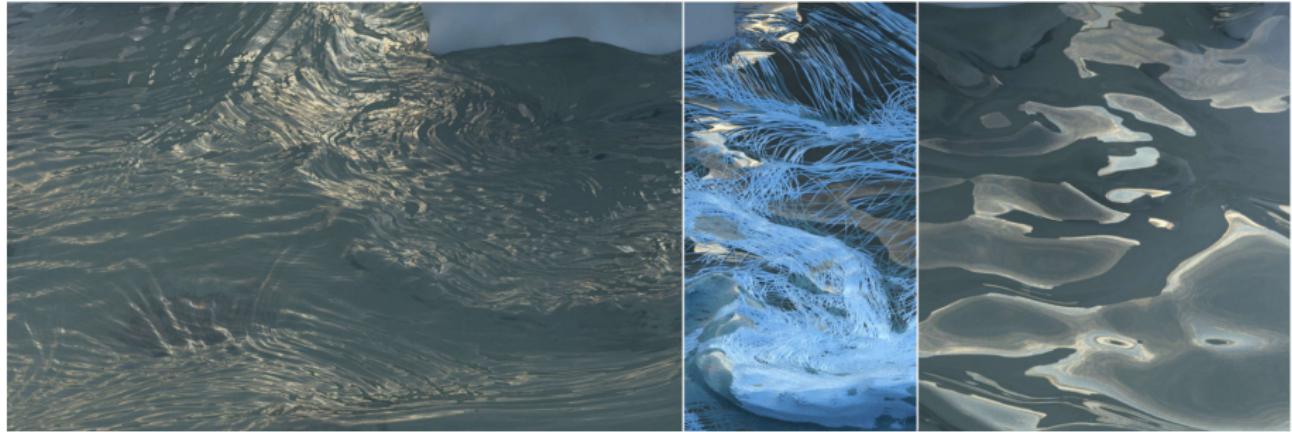
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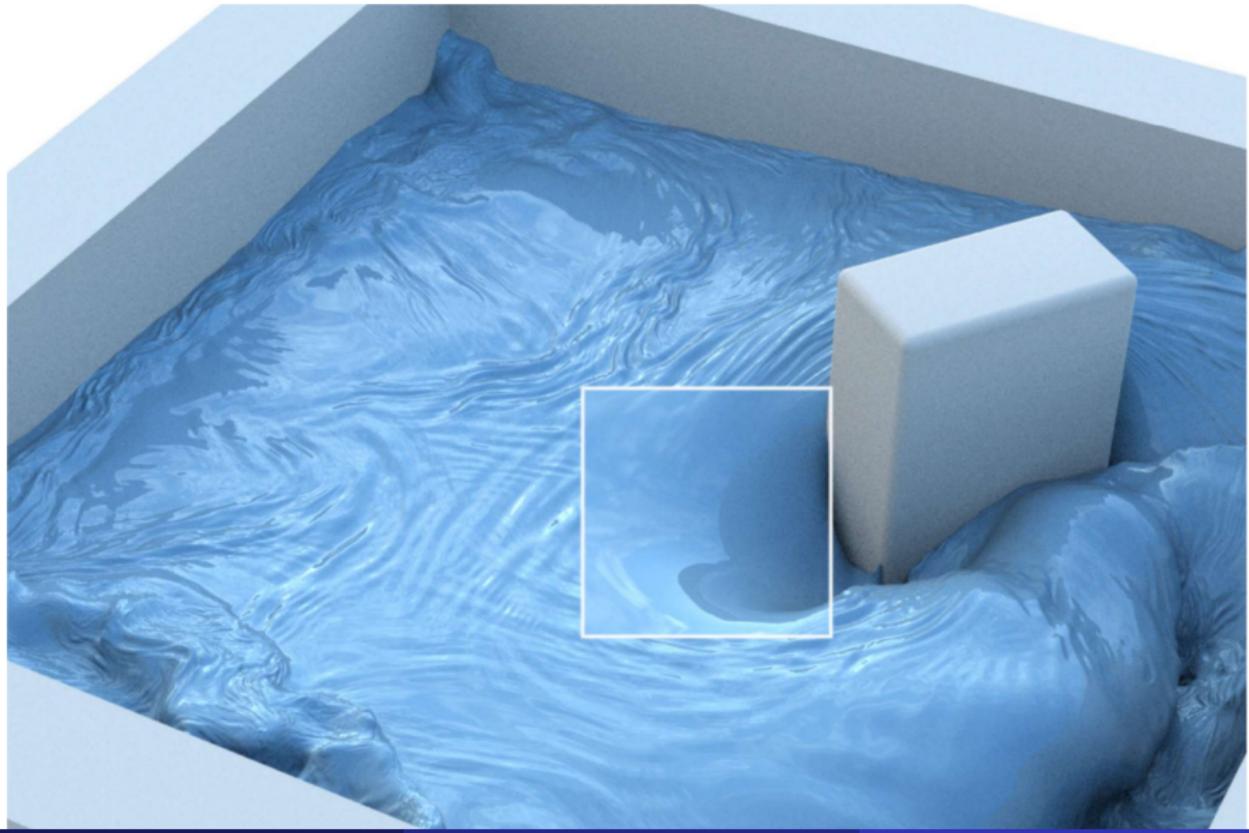
Purpose

- This method is used to enhance visual details of surface water simulations.
- Instead of simulating water using a large number of particles, it uses wave curves to improve quality.

Wave curves



Comparison



Math

$$\frac{\partial E}{\partial t} + \operatorname{div}((U + c_g)E) = \frac{E}{\sigma} \left(-\frac{c_g}{c_p} \right) * D + \frac{1}{\sigma} \frac{\partial \Omega}{\partial g} \frac{Dg}{Dt}$$

Limitations

- small wave amplitude
- small wave length
- slowly changing environment