

# Focusing ocean waves for power and mondo surf

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A new water lens may allow engineers to focus ocean waves. Focusing water waves could potentially enhance the output of wave-powered energy generation schemes, protect ocean front real estate from wave damage, and even amplify waves for surfing and other seaside recreation activities.

Researchers from the Hong Kong University of Science and Technology showed that it would be possible to make a lens from an array of vertical cylinders secured below the water, which focus small ocean waves into larger ones.

The researchers reached their conclusions by simulating the propagation of water waves through an array of ocean bottom-mounted cylinders. By varying the size and spacing of the cylinders, they showed that they could control the reflection, transmission and direction of the water waves through the array, in much the same way that mirrors and glass lenses control light.

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[link.aps.org/abstract/PRL/v95/e154501](http://link.aps.org/abstract/PRL/v95/e154501)

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