波浪エネルギーを利用するための基礎的研究
―位相板と斜面と曲面反射板からなる浮動式波力装置―

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Abstract

The float which moves together with waves cannot exploit the energy of waves. In order to exploit the energy, both a part which moves together with waves and a part which does not are required. The floating type wave power equipment introduced by this research has an unprecedented structure where the slope is attached to the front of the two phase plates and a curved surface reflector with a float is fixed on the slope.

A main body hardly pitched to the waves below 2L. However, in the case of over 2L, the body's movement became large.

By connecting the float to the air pump, moving the pump with the wave power and sending air underwater, the work and efficiency were calculated out.

It turned out that the floating type wave power equipment with a slope and a curved surface reflector functioned to waves with a wide range of waves over 2L and below 2L. The maximum of efficiency amounted to 18.4 %.

The equipment works to the waves of various wavelength and enhances the efficiency. In the future, it could well be applied to the wave power generation and wave power pumping of water at deep sea.