

Heat transpotion by artifical turbulent flow

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Toshiyuki Hibiya (Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo) says that tidal flow produced affects heat transportation by deep flow of the sea. This is the mechanism that turbulent flow produced by tidal flow conducts heat, surface layer to deep layer and water of deep layer performs upwelling with buoyancy. At this researching, we had reproduced tidal flow caused by moving an original sea mount model in water tank for admiration.

Received this accounts, we conducted researches that water tank is treated as real sea to observe how turbulent flow transmits heat, surface layer to deep layer.

In the first place, we generate tidal flow in a water tank by means of taking advantage of sea-mountain movement occurred automatically. And then, we observed the change of water temperature at a second interval and make a graph of this change on the basis of data of thermometers obtained.

Based on the result of this experience, we will explain our consideration about the rolls turbulence plays in heat transportation.

Keywords: Sea