①(松田班)

River Depth and Hydropower

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Abstract

We researched hydroelectic power generation for its auxiliary power source potential. The experiment was conducted with a self-made experimental device. We experimented using our own experimental equipment. There was no difference in the amount of power obtained at any height.

1　Theory and Experiment

In experiment 1, we confirmed the relationship between water depth and flow speed in a moving body of water.
In experiment 2, we confirmed the relationship between the difference in water flow velocity and water.

2　Results

(1) The deeper the water in the tank, the faster the water flowed.
(2) The amount of power generation did not change with the location of the propeller.

3　Discussion

(1) Since the friction received from the bottom of the PVC pipe increased, it can be inferred that the friction increased because of stones, gravel, rocks, etc. in the river, and the flow is further slowed down.
(2) At the bottom, the water pressure increases, so the water flows faster. In addition, it can be inferred that the amount of electric power obtained has increased because kinetic energy had increased.

4　Conclusion

(1) The deeper the depth from the water surface, the greater the friction received from the bottom and the slower the water flows.
(2) There was no difference in the amount of power obtained at any height.

5　References

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