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Tidal Wave Energy Conversion Technology

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Abstract

The objective of this paper is to describe how can we get maximum amount of working force from tidal wave energy. The paper starts with defining the various forces acting on a floating object. Then describe the theory how unnecessary forces can be opposes except the force which is useful and how this useful force can be increase hugely and how we can use the force safely. Using some hand sketch. Finally States the advantages.

INTRODUCTION

Tidal force on a floating object has two elements: 1) Horizontal force (Hf): Is an one directional force create by tidal current. 2) Vertical force (Vf): Is a bidirectional force create by tidal wave. Fig: 1.

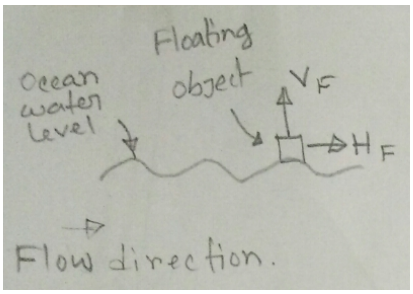
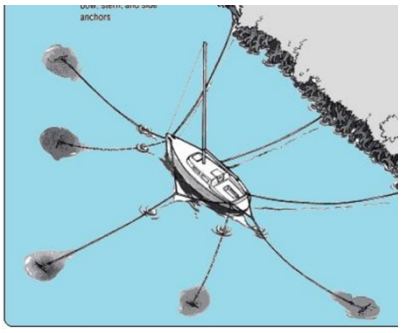


Fig: 1- Tidal forces on a floating object.

DESCRIPTION

This horizontal force (along with wind force) can be oppose by anchore it properly (by using four long distance anchors) so that the vertical force remain almost same. This vertical force is useful. It can be very much useful as easily increase this vertical force by increasing the size of the object. This bidirectional vertical force is very much suitable for pumping purpose.



Movement of this ship due to the tidal wave is only vertical and the amount of energy it carry is big. The vertical upward force of this ship can be use.

By installing pump protected by RCC structure continuously sufficient water pumping possible for hydro power station. Fig: 2.

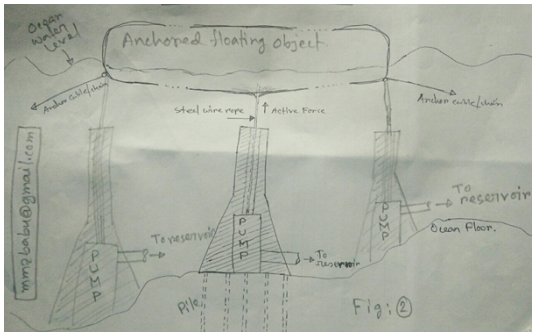


Fig: 2- Tidal wave vertical upward forces on a floating object used for water pumping.

Advantages:
1/ Renewable power. 2/ Very safe. 3/ Reject ships can be use as a floating object so that form a ship city. 4/ Very simple pumping operation so can be design for any size of wave. 5/ Continuous pumping so no need a big reservoir for hydro power station. 6/ Economic.

Keywords—Anchor, Electricity, Pump, Tidal wave energy.

Professional Biography

Md. Moniruzzaman has completed his BSc Engineering (EEE) at the age of 24 years from Dhaka University of Engineering and Technology and Diploma Engineering (Electrical Technology) studies from Bangladesh Sweden Polytechnic Institute. He is the Executive Engineer of PGCB Ltd. a premier organization of Government Power Sector.



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Very easy, safe and economic way to harness huge amount of wave energy.