

Abstract:

Dry and semidry continental situations and lack of time harmony between regional watering and consuming have caused that dam scieonces tried to control and restrain the surface sources of water. Through them or by managing and organizing, they could provide different water needs. But, sedimentations in sources shorten the serviceable life of dams. Turbidity flows are the main factors of transferring the sentiments into the sources. Turbidity flows resulted in decline of capacity of dams. Furthermore, arrival of sediment particles increased the speed of erosion of turbines and decreased their efficiency and finally increased the maintenance costs. Accessing the purification costs of drinkable water and being the downstream agricultural fields in danger are the negative effects of turbidity flows. Nowadays, speed of losing capacity of dams by sedimentation is more than speed of building them. So, the growth of serviceable life of dam and preserving the saving capacity for controlling and using water are critical topics. In this research, the situations of turbidity flows in laboratory model were studied by installation of submerged impermeable platforms with various dimensions through the direction of flows. Because some factors like slope and density of flow influenced on the turbidity flow, tests were repeated in two slopes and two density and overall 29 tests were done. the conclusions showed that platforms with relative height of 18 and 20 percent in slope of 1 and 2 percent had the most effect on reduction of height and speed of turbidity flow. Also, the platforms with relative width of 20percent in slope of 1 percent had the most effect on reduction of height and speed of turbidity flow.

key words: turbidity flow- submerged impermeable platforms - slope - dimensions of platform - density of turbidity flow.



University of Zabol

Graduate school

Faculty of Water and Soil

Department of Water Engineering

Dissertation for M.Sc Degree in the field of Water Structures

Title

**Investigation of the effect of the dimension of submerged impermeable plates
on density current at laboratory condition**

Supervisor first

Dr.S.M. tabatabai

Supervisor second

Dr. H. khozemehnejad

By

a.khosravi

2016