



## **Experimental Analysis on Hydraulic Mechanism of Different Types of Arched Groundsill**

Yen-Tzu Lin and Hung-Pin Huang

Dept of Bioenvironmental Systems Engineering, National Taiwan University

An innovative groundsill that is broadly used by Soil and Water Conservation Bureau lack the hydraulic mechanism, so there are still some uncertainties in design process. By flume experiments, we explore the hydraulic mechanism of different types of groundsills, such as linear, upward arched, downward arched, symmetrical upward arched, symmetrical downward arched, and upward arched with lower spillway types.

The principal conclusions are as follows: for the flowing type and scour over the structure, linear groundsill is uniform distribution, upward arched type tends to the center of the channel, and the downward arched one disperses. The impact pressure is positively correlated with the depth of scour hole, that is, the greater the impact energy of water flow, deeper the scour hole is.