

عنوان مقاله:

Slope Effect on Dam Break Flow over Movable Bed, Experimental Study

محل انتشار:

هفتمین کنگره ملی مهندسی عمران (سال: 1392)

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خلاصه مقاله:

The failure of a major flood control structure may expose the surrounding population to serious risk. Such an event kind may involve rapid transients with strong interactions between flow and topography. So, to correctly simulate the consequences of a dam failure in a complex topography, this interaction should be accounted for in mathematical modeling, which should however rely on physical descriptions that are not yet completely established. Present study explores some configurations for plane movable bed with different percent of bed slope across the dam. Experiments were carried out in an ideal flume, and instrumentation of the tests performed by means of fast digital imaging through the flume. Results show that increasing in slope lead to increasing in flow velocity and therefore increasing in eroding force and volume of transported sediment. Important result is that increasing in slope lead to nonlinear variation rate of scouring and sedimentation parameters.

کلمات کلیدی:

Dam break, Slope effect, Experimental study, Image processing

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