

## عنوان مقاله:

Time dependent variation of river bed profile due to mining pit

## محل انتشار:

پنجمین کنفرانس بین المللی پیشرفت های علوم و تکنولوژی (سال: 1390)

تعداد صفحات اصل مقاله: 8

## نویسندگان:

Mona Ghafouri Azar - *Department of Irrigation and Reclamation Engineering, Faculty of Agricultural Engineering and Technology, University of Tehran, Karaj, Iran*

Mohammad Hadi Davoudi - *The Research Institute for Water Scarcity and drought, Tehran, Iran*

Ebrahim Amiri Tokaldani

## خلاصه مقاله:

Many rivers and their floodplains are the most essential source of aggregate for construction of roads, canals, concrete buildings and many other purposes. The improper mining of sand and gravel from rivers can result substantial damage to the rivers such as massive bank failure, increasing channel erosion of the upstream of the excavation site and downstream sedimentation. This paper focused on the effect of pit dimensions on the bed topography, based on laboratory observations. For each test the bed topography and the water surface along the centerline of the flume was measured several times until arriving equilibrium in the bed profile. In these tests the width of the pits was constant and equal to the flume width, while the length and the depth of the pits were different. The discharge flowing in the flume was constant too, but the flow depth was adjusted for four different values. The gathered data were analyzed to develop a relationship between the advancement rate of the pit along the river course. Using dimensional analysis technique, an exponential relationship was developed between the initial dimensions of pit and the shear velocity of flow with the position of pit at each time interval for obtaining the migration pit. The relationship was validated by a series of tests and a good correlation was observed between the observed and the calculated values

## کلمات کلیدی:

mining pit, river, sand and gravel

## لینک ثابت مقاله در پایگاه سیویلیکا:

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