

## عنوان مقاله:

Investigating the local arching phenomenon in total pressure cells located in clay core protective filters and (comparison with numerical modeling results (case study: mamlou earth dam

## محل انتشار:

چهارمین کنفرانس بین المللی رفتار بلندمدت و فن آوری های نوسازی سازگار با محیط زیست سدها (سال: 1396)

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## خلاصه مقاله:

One of the most important factors affecting the safety and stability of earth dams is arching in a clay core. This phenomenon happens due to difference of elastic modulus of clay and filter materials, which, in turn, causes more settlement in clay core than the sides. This makes transmissions of stress in arched format to lateral filters; hence, stress recorded in pressure cells located in filters increases to more than the above material layers weight. This led to an increase of arching factor (ratio of stress recorded of total pressure cells to materials weight over these cells) to higher than the unit. This implies that arching is of great importance during the initial impounding of dam reservoir, which should not exceed limited value. The problem happened in Mamlou earth dam is local arching in place of total pressure cells installed in filters which has caused decreasing of recorded stress. Accordingly, the factor of arching is less than one. The phenomenon has happened in most of pressure cells installed in filters. This paper, then, has studied the cases happened in the highest section of dam (section 14). In the next part, we have modelled the main section of the dam in finite difference method by FLACZD. Finally, we have presented the results of comparison . between instmment and model results

## کلمات کلیدی:

local arching, modulus of elasticity, FLACZD, total pressure cells

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/680124>

