The title (العنوان):

Seepage and dam deformation analyses with statistical models: support vector regression machine and random forest

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Abstract: Dam monitoring and their safety are an important concern of dam engineers. Seepage collected data are indicators of structure behavior, since seepage is influenced by environmental actions, such as air temperature, water temperature, and water level variation, and seepage flow rate is greatly influence by the presence of fractures. Consequently, the analysis of seepage collected data is an important monitoring task, as variations in the seepage can be the alarm for subsequent failures. Seepage data are widely analyzed with statistical models. In this work, we assess the performance of support vector regression machine and random forest models to predict seepage at different points in a case study and identify the most important environmental variables affecting flow rate.

Key words: Dam monitoring ; Seepage ; Random forest ; Support vector regression ; Water temperature

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