

Predavanja u HDMu:

Computational Modelling Of Masonry Structures Using The Discrete Element Method

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ABSTRACT

Masonry is a combination of units such as stones, bricks or blocks usually laid in a cementitious or lime mortar. It is probably the oldest material used in construction and has proven to be both simple to build and durable. Over the years, existing masonry constructions have inevitably suffered damage with time.

Earthquakes, soil settlements, material degradation and lack of maintenance are the main reasons for that. Careful and periodic assessment of such structures is necessary in order to evaluate their structural capacity and safety levels. However, performing the structural analysis of masonry construction is not an easy task.

The Discrete Element Method (DEM) has emerged as a solution to predicting load capacities of masonry structures. As one of many numerical methods and computational solutions being applied to evaluate masonry structures, further research is essential for further advancement in order to predict the mechanical behavior of masonry structures.

This presentation discusses the latest digital solutions for the analysis and modelling of blocky structures focusing on critical research on mathematical and computational methods for masonry analysis.