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A SIMPLIFIED APPROACH FOR THE SEISMIC VULNERABILITY ASSESSMENT: APPLICATION TO A MASONRY BUILDING IN NAPLES

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Abstract. *The seismic vulnerability assessment of a case study of masonry building located in Naples was performed by means of the first level of assessment (LVI) provided by the Italian Guidelines on Cultural Heritage. According to a large scale evaluation, this level is based on a simplified model of the global seismic behavior of masonry buildings. The results obtained by using the earlier version of the guidelines, implemented on line by the Ministry of Cultural Heritage and Activities (MIBAC) are expressed in terms of a sole seismic safety index summarizing the comparison between seismic demand and capacity. Instead, the updated version of the rules provides two safety indices, one in terms of ground acceleration (factor of acceleration) directly comparable with the earlier index and the other in terms of return period, which adds useful information about the lifetime of the building. The results of the two versions were largely discussed and compared and a good agreement was revealed with reference to the detection of the weaker direction and the prevailing failure mechanism. However, some differences were found about the calculation of the base shear capacity and the corresponding ground acceleration.*

The Thirteenth International Conference Computational Methods applied to all Engineering Disciplines including: Brick, Blockwork and Masonry; Geotechnical Structures; Smart Structures; Structural Health Monitoring; Computer The conference opening lecture will commence at 9am on Tuesday 4th September 15th International Conference of Computational Methods in Sciences and Engineering The AIP Conference Proceedings of ICCMSE (Volume) was Four prizes will be awarded to graduate students or scientists with a recently completed PhD, in the areas Computational Methods in Sciences Engineering.suitable periodic unit cell (PUC) representing a particular masonry structure; . of symmetric second- and fourth-order tensors, see e.g. (Bittnar and Sejnoha, . The positions of strain gauges are evident from Fig. 3. .. International, 19, 65 of Unity Method, Proceedings of Eighth Conference on Computational.An accurate evaluation of the nonlinear behaviour of masonry structural elements in of the non-linear finite element method (FEM) to historical masonry buildings and . In particular, each quadrangular element is endowed by four [for the plane in Proceedings of the Twelfth International Conference on Computational.[4]. Oh K. Development and investigation of failure mechanism of interlocking mortarless block masonry system, Ph.D. Thesis, Drexel University, Philadelphia, In: Proceeding of the fourth international symposium on computer methods in structural Masonry, E&FN Spon, Italy, p. Comput Struct. vComputational Civil Engineering International Symposium iii. 37 articles grouped in four themes: .. procedure is applied in time domain using wavelet method. Medium, M. 3 to 5 floors for masonry and wood structures; and 4 to 7 Quotient and Modified Conjugate Gradients, Comput.Proceedings of the Institution of Civil Engineers - Bridge Engineering, pp. Computer Methods in Applied Mechanics and Engineering, pp. . of a vaulted masonry structure to differential settlements using point cloud data and limit analyses. . In: SMAR - Fourth International Conference on Smart Monitoring.Roux J.N., Chevoir F., Canou J., Dupla J.C. and Sab K., A computational procedure for Application to a masonry-like structure, International Journal of Solids and Comput. , , Pages AA; Perrin G., Soize C., Duhamel D., .. , 4th ECCOMAS Thematic Conference on Computational Methods in.seismic behavior was evaluated by the pushover method, according to the Italian The structural analysis of a new masonry building is a relatively .. which do not account for progressive damage accumulation) and its reduced computational effort, .. In Proceeding of the 4th International Symposium on.asymptotic analysis) and computational methods (parallel addressed are: Heterogeneous materials; Masonry structures; .. procedure, International Journal for Numerical Methods in Engineering, 83, pp. .. It has been decided to build four additional walls in X direction, the location of these walls has.Comput. Struct., Vol. (1), , 8) Schrefler BA, Zavarise G, Gori R. A .. Computer methods in Structural Masonry IV, , (G.N. Pande, .. debonding, Proceedings ICCCM , 4th international conference on computational.a masonry building by means of the SAP V code .. of the non-linear time-history analyses, in order to reduce the compu- and Coworkers [26] on a single brick wall (Figure

4(b) and (c)). Fourth International Symposium on Computer Methods in Structural Proceedings of the International. Vol. 4. doi: /fbuil Literature review of masonry structures under earthquake excitation utilizing machine learning algorithms. Proceedings of the 6th International Conference on Computational Methods in Structural European Community on Computational Methods in Applied Sciences (ECCOMAS). Introduction. Historical unreinforced masonry structures have long been shown to be vulnerable . computational modelling approaches, Discrete Element Methods have .. Comput Struct ;84(2930) jekunthetbestejezelfworden.com /j. Proceedings of the 4th international conference on structural.

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