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ABSTRACTS BOOK

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Abstracts

**Editor
Sakir TASDEMIR**

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ANALYSIS OF HISTORICAL CASTLES USING THE FINITE ELEMENT METHODS***ELIF BELOVACIKLI¹, MAHMUD SAMI DONDUREN¹***¹ Konya Technical University, Turkey**ABSTRACT**

Historical buildings which are our cultural identity, are of great importance as they guide us between our past and our future. They have begun to wear out from both human factor and natural effects in time. In order to ensure that historical buildings are transferred to the future, studies are carried out in line with national and international disciplines. Especially since our country is located in an active earthquake zone, the behavior of historical buildings under the influence of earthquakes should be known and necessary precautions should be taken accordingly. These studies should be carried out meticulously by different disciplines in cooperation. Within the scope of this study information is given about the material properties and carrier systems of historical buildings in order to get to know the historical buildings better. The types of damage that may occur in historical buildings and the repair and strengthening methods recommended for these damages are discussed in detail. Information is given about the modeling techniques used in the analysis of masonry structures. Within the scope of the study, general information about the historical castle city walls and bastions is given. Then, it is explained how the historical castles are analyzed with finite element method using the SAP2000 V20 package program. Modeling of historical castles as a SOLID element and static and modal analysis according to TBDY 2018 according to their various loads are mentioned. As a result of the analysis, the maximum stresses and displacements that may occur in the structure are interpreted.

KEYWORDS - Castle, Finite Element Methods, Mansory Buildings, Solid