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Faculty of Civil
Engineering and
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Master's Thesis

Time History Analysis

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Limassol, November 2019

CYPRUS UNIVERSITY OF TECHNOLOGY
FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF CIVIL ENGINEERING AND GEOMATICS

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ABSTRACT

The purpose of this paper was the study of different types of nonlinear analysis and how they can be effectively used for the seismic assessment of structures. The differences between them and the differences between linear types of analysis. Moreover, from using software to analyze different structures to understand their effectiveness and compare them to linear analyzes.

For the analysis, two buildings were used. The first one is a building with four floors, and each floor has normal column and beam layout. The other building has seven floors 4which are has an irregular column and beam layout. The columns dimensions are reduced from floor to floor. There are beams supported on beams and there is inadequate wall system in the one direction, as most of the walls have their main axis in the other direction. All the above made the analysis and how the hinges are formed more interesting to examine.

Keywords: Time-History, Dynamic Analysis, Nonlinear Analysis, Earthquake