

EVALUATION OF MATHEMATICAL MODELS OF STRUCTURES FROM  
 FULL-SCALE FORCED VIBRATION STUDIES AND RECORDS OF  
 MODERATE EARTHQUAKES

by  
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Using experimental results from full-scale forced vibration study a linear mathematical model of 12 story prefabricated prestressed building has been formulated and comparison of experimental and analytical dynamic properties of the building are presented in Fig.1. In order to verify procedure for linear and nonlinear mathematical model formulation three strong motion accelerographs in the basement, sixth and twelfth floor of the building have been installed. Using described mathematical model a dynamic response in E-W direction of the building has been obtained for the input of recorded earthquake in the basement. Comparison of calculated and measured response on sixth and twelfth floor as well as input record are shown in Fig.2. It has been found relatively good correlation of compared responses.

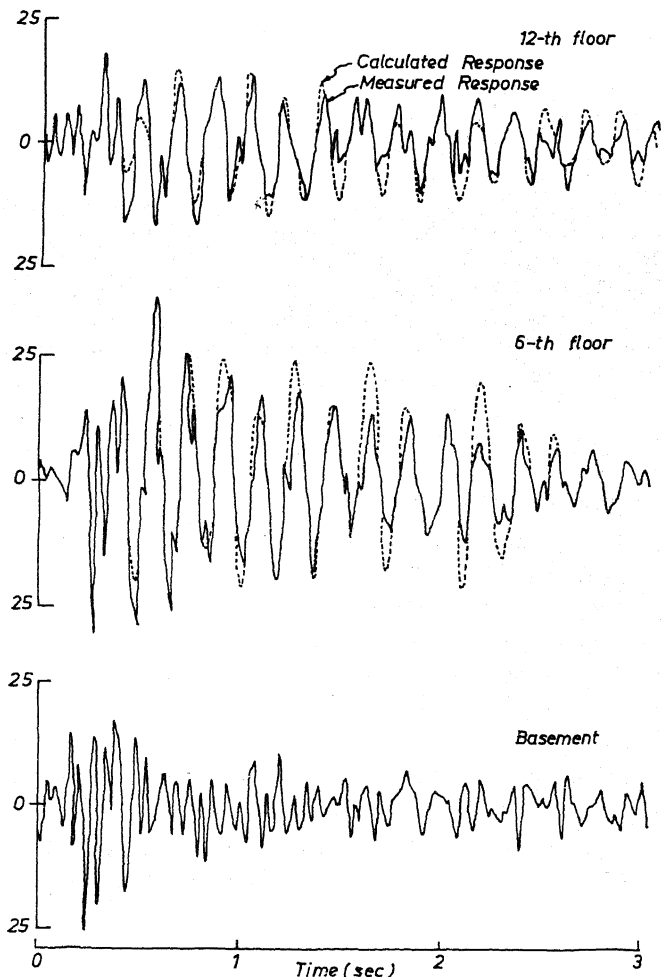
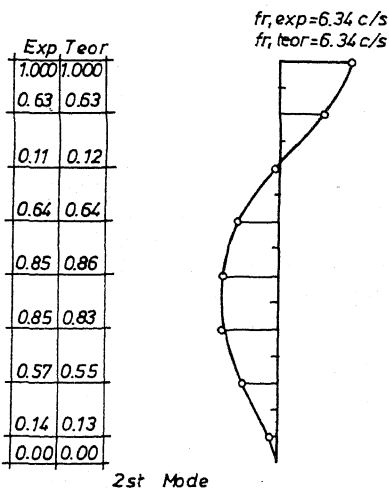
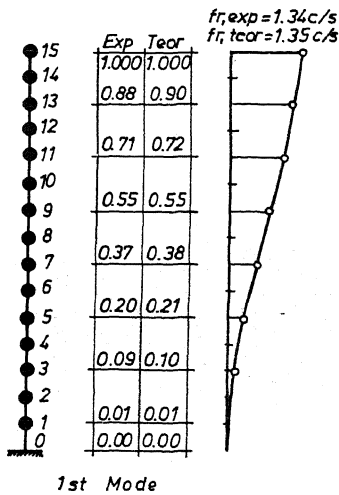


Fig.1 ANALYTICAL AND EXPERIMENTAL DYNAMIC PROPERTIES

Fig.2 RESPONSE OF THE BUILDING IN E-W DIRECTION

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