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# AN INTRODUCTION TO PUSHOVER ANALYSIS

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**ABSTRACT**
Performance-based seismic design, which is a relatively new concept, came into existence as a means to ascertain the likely performance of an existing building structure during an earthquake. However, this approach is equally applicable to new buildings being designed. Herein is explained why there is a growing consensus among designers to follow this approach as a replacement of the existing force-based design procedures. It is explained as to what constitutes a performance objective which relates the desired performance level to a perceived hazard level. The analytical approach calls for a nonlinear seismic analysis for which the simpler nonlinear static method is often adopted. This is termed as the pushover analysis which is described in detail. Both subsets of this method, viz., the capacity spectrum method and the seismic coefficient method, are explained in detail. The merits and limitations of this method of analysis are also pointed out. The recent drive for use of performance-based approach for design as well as assessment of building structures has led to rapid developments to enhance the reliability of this analytical approach.

**KEYWORDS**-Pushover analysis • Performance-based design • Performance levels • Nonlinear static procedure