**DISPLACEMENT BASED DESIGN, (DBD), NONLINEAR STATIC PUSHOVER ANALYSIS TO VERIFY THE PROPER COLLAPSE MECHANISM OF STRUCTURES**

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## ABSTRACT:

Under the pressure of recent developments, seismic codes have begun to explicitly require the identification of sources of inelasticity in structural response, together with the quantification of their energy absorption capacity.

In the pushover procedure, a static lateral load, which is distributed approximately equivalent to seismic loads generated by an earthquake, is applied to the structure, which is then displaced (pushed over) incrementally to the level of deformation expected during the earthquake (target displacement) while keeping the applied load distribution pattern. Base shear and corresponding displacement at each stage are used to build the pushover curve ,following which the seismic structural deformations and the performance level of the structure are estimated. The nonlinear load-deformation characteristics of individual components and elements of the structure are considered in the model to account for the possibility of exceeding elastic limits.