**DYNAMIC ANALYSIS OF INDUSTRIAL STEEL STRUCTURE BY  
USING BRACINGS AND DAMPERS UNDER WIND LOAD  
AND EARTHQUAKE LOAD**

**Abstract:**

The structural system of the building has to support thelateral loads due to earthquake and wind in addition to gravity loads.A lateral load develops high stresses and produces sway causingvibration and drift. If the industrial steel structures are not designedto resist the lateral loads, then they may be collapse resulting into theloss of life or its content.

The objective of this research is to propose simple butinnovative and effective LLRSS or structural technology andmethodology for the seismic control which can be used in new as wellas old industrial steel structures. In spite of increasing popularity,analytical study of braced industrial steel structure and its detailedrequirement to control the seismic responses limited in India. Alsoindustrial steel structure involves heavy dead load due to largemember size which intern is more prompt for seismic loss.

The research work dealswith the parametric study of response of Non-linear time historyanalysis (NLTHA) of 3D industrial steel structure braced withdifferent bracing configurations and dampers with different massratios using software (Sap-2000) under earthquake. The bracingconfiguration used are X-bracing, Modals with x bracing and damper with mass ratio 2% arefound to improve the performance of the building under earthquakeload and wind load.

Key words: LLRSS, bracings, dampers, time history analysis,time period, base shear, lateral displacement,EARTHQUAKE, SAP 2000 software.