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Dynamic Analysis of Transmission Line Towers

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Abstract : The transmission line towers are one of the important life line structures in the distribution of power from the source to the various places for several purposes. The predominant external loads which act on these towers are wind and earthquake loads. In this present study tower is analyzed using Indian Standards IS: 875:1987 (Wind Load), IS: 802:1995 (Structural Steel), IS:1893:2002 (Earthquake) and dynamic analysis of tower has been performed considering ground motion of 2001 Bhuj Earthquake (India). The dynamic analysis was performed considering a tower system consisting two towers spaced 800m apart and 35m height each. This analysis has been performed using numerical time stepping finite difference method which is central difference method were employed by a developed MATLAB program to get the normalized ground motion parameters includes acceleration, frequency, velocity which are important in designing the tower. The tower is analyzed using response spectrum analysis.

Keywords : response spectra, dynamic analysis, central difference method, transmission tower
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