

Seismic Analysis of Structurally Hybrid Wind Mill Tower

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Abstract : The tall windmill towers are designed as monopole tower or lattice tower. In the present research, a 125-meter high hybrid tower which is a combination of lattice and monopole type is proposed. The response of hybrid tower is compared with conventional monopole tower. The towers were analyzed in finite element method software considering nonlinear seismic time history load. The synthetic seismic time history for different soil is derived using the SeismoARTIF software. From the present research, it is concluded that, in the hybrid tower, we are not getting resonance condition. The base shear is less in hybrid tower compared to monopole tower for different soil conditions.

Keywords : dynamic analysis, hybrid wind mill tower, resonance condition, synthetic time history

Conference Title : ICSECM 2018 : International Conference on Structural Engineering and Composite Materials

Conference Location : Sydney, Australia

Conference Dates : October 04-05, 2018