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Dynamic Response Analysis of Structure with Random Parameters

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Abstract : In this paper, we propose a method for the dynamic response of multi-storey structures with uncertain-but-bounded parameters. The effectiveness of the proposed method is demonstrated by a numerical example of three-storey structures. This equation is integrated numerically using Newmark's method. The numerical results are obtained by the proposed method. The simulation accounting the interval analysis method results are compared with a probabilistic approach results. The interval analysis method provides a mean curve that is between an upper and lower bound obtained from the probabilistic approach.

Keywords : multi-storey structure, dynamic response, interval analysis method, random parameters
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