عنوان مقاله:

Uncertainly in Structural Frequency Computations

محل انتشار:

پنجمین کنفرانس ملی زلزله و سازه (سال: 1393)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Alireza Tayeri - *Graduate student in Azad University of Sirjan*

Asghar Vatani Oskouei - *Associate Professor in Shaid Rajaee Teacher Training University, Tahran*

Seyed Sadegh Naseralavi - *Assistant professor in Valy-e-Asr University of Rafsanjan*

خلاصه مقاله:

In most structural softwares, the design parameters are defined as deterministic parameters so, the obtained frequencies are deterministic but not reliable. For understanding the output frequency's accuracy obtained from a software, the probability distribution of frequency is needed which is here the case. In this work, the probability distribution of frequency is derived by Monte Carlo simulation. To reduce the computational time, the natural frequencies are evaluated using two methods: (1) A linear regression model, (2) An efficient algorithm with first and second order approximations. Finally the paper, the efficiency of the proposed methods is discussed through an illustrative example.

کلمات کلیدی:

Monte Carlo, Eigen-vector, Probability distribution function (PDF), Linear regression, Uncertainty analysis

لینک ثابت مقاله در پایگاه سیویلیکا: