عنوان مقاله:
Free vibration analysis of a porous beam under subtangential force

محل انتشار:
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خلاصه مقاله:
This investigation aims to explore the free vibrationanalysis of a cantilever beam made of porous materialsbased on the Euler-Bernoulli beam model and subjected to asubtangential force. Applying Hamilton’s principle, thegoverning equation and corresponding boundary conditionsare derived and then, the Galerkin method is employed tosolve them by the eigenvalue analysis in order to converteda set of partial deferential equations to ordinary type. Theresults illustrated effects of main parameters such asporosity coefficient and various non-conservative parameteron the natural frequencies of a cantilever porous beam.Finally, the validity of the present analysis is confirmed bycomparing .the results with those obtained from theliterature

کلمات کلیدی:
Vibration, Porous Material, Non-ConservativeParameter, Subtangential Force