

عنوان مقاله:

Investigation of Buckling Load of Smart Compressive Members of Space Structures Using Genetic Programming

محل انتشار:

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خلاصه مقاله:

In this paper, buckling load of Smart lightweight compressive members of space structures is investigated. The theoretical model is three layers composite beam made up one long elastic core and two surface piezoceramics patch which act as extensive actuation mechanism. The finite element modeling of Smart lightweight compressive members is found using ANSYS® software. Then, the first buckling load of member is calculated by buckling analysis option of ANSYS® software. The analyses are performed with variation in geometrical parameter of simply- simple supported smart compressive members. Regarding to complexity of this phenomenon, existent models are often insufficient. Nowadays, Artificial intelligence such as artificial neural network and genetic programming are used for modeling this complex phenomenon. In the present study, genetic programming (GP) was used to estimate the buckling load of Smart lightweight compressive members.

کلمات کلیدی:

Smart space Structures, Buckling load, Genetic programming

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