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عنوان مقاله:

OPTIMIZATION OF NON STATIONARY CNG PRESSURE VESSELS DEFLECTION USING GENETIC ALGORITHM

محل انتشار:

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خلاصه مقاله:

One way for energy transportation of natural gas is by using the non-stationary cylindrical vessels moved with truck of trains. To design these vessels, because of the non-stationary conditions and positioning on three of four saddle supports, the well-known standards cannot be used. To design these vessels , the stress in vessel components and deflection of vessels must be considered. In this paper , a method to determine the best position of saddles for getting the minimum deflection on the vessels in introduced using the finite element analysis (FEM) and the genetic algorithm . the method links FE software (ANSYS) with an optimization algorithm to get best position of saddle supports of vessels in order to have minimum deflection of vessels . the constraints in optimization procedure consist of pressure vessels standards and local transportation lows. The results show that method can be effectively used for design optimization of CNG Pressure Vessels.

کلمات کلیدی:

Design optimization، CNG pressure vessel، Genetic algorithm، FE analysis

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