

عنوان مقاله:

Design Optimization of Fixed Offshore Platform Jacket by Genetic Algorithm

محل انتشار:

سیزدهمین کنگره بین المللی مهندسی عمران (سال: 1402)

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خلاصه مقاله:

In this research, genetic algorithm is applied for design optimization of fixed offshore platforms. In the optimization problem, the weight of the platform is taken as the objective function while limitations imposed by the offshore design codes on axial and flexural stresses, buckling of members and top displacement of the jacket are considered as the constraints. The cross-sectional geometric properties of tubular members of the fixed offshore platform jacket consisting of outer diameter and thickness are considered as the decision variables of the optimization problem. A set of preliminary investigation is carried out to find the proper GA operators such as mating and mutation and proper value of the GA parameters such as population size, tournament size and mutation probability. The proposed genetic algorithm with appropriate operators and parameters is used for the optimal design on of offshore platform situate in .South Pars Development (SPD) field situated in the Persian Gulf and the results are presented

کلمات کلیدی:

Fixed offshore platform; Jacket; Optimization; Genetic algorithm; Function value

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