

عنوان مقاله:

Optimization of water consumption network with regeneration reuse by Coupled Genetic Algorithm-LP Method

محل انتشار:

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خلاصه مقاله:

Water is being used for all industry process purposes ranging from steam generation, to cooling as direct injection in reactive and separation systems. There has been growing interest in the last decades in many industrial countries over the management of wastewater in chemical process industry. In this paper, Coupled Genetic Algorithm-LP Method is employed to optimize single-contaminant regeneration reuse water systems. Structural modifications are carried out by the GA, which specifies the connections of water consumption network. Linear programming is used to handle the Continuous variables because of its simplicity by converting nonlinear constraints to linear ones. In the regeneration reuse model, partial treatment can remove contaminants from wastewater which otherwise would prevent its reuse. After optimization, two examples are given to illustrate the design method. Results show that our method can find the same or better results in some test problems

کلمات کلیدی:

optimization; water consumption network; genetic algorithm; regeneration reuse

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