عنوان مقاله:

Economic-statistical design of acceptance control chart under uncertainty conditions

محل انتشار:

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خلاصه مقاله:

Acceptance control charts (ACC), as an effective tool for monitoring highly capable processes, establish control limits based on specification limits where the fluctuation of the process mean is permitted or inevitable. For designing these charts by minimizing economic costs subject to statistical constraints, an economic—statistical model is developed in this paper. However, the parameters of some processes in practice are uncertain. Such uncertainty could be an obstacle on getting the best design. Therefore, the parameters are investigated by robust optimization approach. For this reason, a solution procedure utilizing genetic algorithm (GA) is presented. Based on numerical studies, the algorithm procedure is illustrated and some comparisons are made to evaluate the performances of economic design (ED) versus economic—statistical design (ESD). The results have indication of better proposed approach for designing ACC and more reliable solutions for practitioners.

کلمات کلیدی:

acceptance control chart; economic—statistical design; robust optimization; genetic algorithm