

# Change impact analysis of complex product using an improved three-parameter interval grey relation model

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## ABSTRACT

Change impact evaluation of complex product plays an important role in controlling change cost and improving change efficiency of engineering change enterprises. In order to improve the accuracy of engineering change impact evaluation, this paper introduces three-parameter interval grey number to evaluate complex products according to the data characteristics. The linear combination of BWM and Gini coefficient method is used to improve the three-parameter interval grey number correlation model. It is applied to the impact evaluation of complex product engineering change. This paper firstly constructs a multi-stage complex network for complex product engineering change. Then the engineering change impact evaluation index system is determined. Finally, a case analysis was carried out with the permanent magnet synchronous centrifugal compressor in a large permanent magnet synchronous centrifugal unit to verify the effectiveness of the proposed method.

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