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TECHNICAL REPORT

GREY RELATIONAL ANALYSIS WITH INTEGRATED WEIGHT FOR DIFFERENT TYPE OF DATA (P28S18)

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ABSTRACT

Grey Relational Analysis (GRA) is a method which calculates relational coefficient and relational grade between object by comparing the geometric relation between system's statistical data. However, in the traditional grey relational analysis, the calculation of grey relational grade ignores the influence of each factor or other means the weight used are equal. This study proposed integrated weights in the calculation of grey relational grade by using the entropy method. There are two types of data are used to evaluate this method. First data have the same characteristic which means that the data is in certain range while second data have the different characteristics where the data have different types of criterion. The selection of data normalization based on data characteristics was investigated to see the effect of the model. The result shows that the entropy method does not give effect with non-weight to the data with the same characteristics. However, data with different characteristics, entropy weight give a different result with the non-weight. In addition, this study is conducted using MATLAB software and GUI as a tool to calculate this result. From this study, it can be concluded that GRA can do well in any type of data and entropy method can give more effect to the data with different characteristics compared to the data with the same characteristics.