

Spectral Clustering for Manufacturing Cell Formation

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Abstract : Cell formation (CF) is an important step in group technology. It is used in designing cellular manufacturing systems using similarities between parts in relation to machines so that it can identify part families and machine groups. There are many CF methods in the literature, but there is less spectral clustering used in CF. In this paper, we propose a spectral clustering algorithm for machine-part CF. Some experimental examples are used to illustrate its efficiency. Overall, the spectral clustering algorithm can be used in CF with a wide variety of machine/part matrices.

Keywords : group technology, cell formation, spectral clustering, grouping efficiency

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