

Application of MATLAB to create initial solution for Tabu Search in parallel assembly lines balancing

ABSTRACT

In comparison with the exact mathematical methods, the heuristic models are different to provide solutions close to the optimal one, saving time of processing. With the appearance of the Tabu Search by Fred Glover in 1986, different applications have been arisen from the procedure to solve different problems for the classic problems of assembly line balancing and parallel mixed model assembly line. Here, an adaptation to an existing code appears which is applied to the problem of allocating and assigning mixed model tasks for the reconfiguration of distributed generation and balance with parallel assembly line. The model provides optimal or near optimal results in terms of results obtained from calculations compared to the other methods.

Keyword: Parallel assembly lines; Heuristic method; MATLAB