

Review of: "Solving Pallet loading Problem with Real-World Constraints"

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Potential competing interests: No potential competing interests to declare.

The authors investigated the Pallet Loading Problem with Real-World Constraints that is an important optimization problem in logistics. The paper is interesting but it needs major revision. I have some remarks that have to be considered in the revision of the paper.

The remarks on the article are given as follows.

1. The problem has to be defined more precisely.
2. The latest cited article in the literatures review is from 2016. This part of the article should be supplemented with newer results.
3. The mathematical expressions should be numbered.
4. In section "Method for Solving Pallet Loading Problem", the formula which defines the upper bound, is not correct (theres is no set named "k"; the variables u_j should be binary variables; the optimum of the defined linear integer problem is not an upper bound of the pallet loading problem.)
5. The arrays D_x and D_y have to contain the corner points of the pallet as well because without them the calculation of the unused pallet volume (V_p) is not correct.
6. The set $S_{\{j,k\}}$ and the set of the extreme points should be explained via an example.
7. The sets $S_{\{x,i\}}, S_{\{y,i\}}, S_{\{z,i\}}$ should be explained via an example.
8. The pseudo-code of the algorithm should be more precise: a, "calculate the upper bound with respect to the loaded transport units and selected transport unit". In this case, the upper bound may depend on the the position of the selected transport unit. b, It is not clear, what the following means: "evaluate the position and orientation candidates for the selected transport unit **with respect to the maximum number of branches**". c, It is not clear, what do we mean on **best position and orientation candidates**.
9. Almost nothing is known about the data set that was used to validate the algorithm. We don't know the number of the test examples; the number of the pallets in the different test examples, the quality of the given results. The paper should include a detailed description of the experiments (it should be nice to place the test examples into a public repository).
10. The proposed algorithm should be compared to other existing algorithms.

