



A Tabu Search Algorithm with Direct Representation for Strip Packing

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Résumé en anglais	<p>This paper introduces a new tabu search algorithm for a two-dimensional (2D) Strip Packing Problem (2D-SPP). It integrates several key features: A direct representation of the problem, a satisfaction-based solving scheme, two different complementary neighborhoods, a diversification mechanism and a particular tabu structure. The representation allows inexpensive basic operations. The solving scheme considers the 2D-SPP as a succession of satisfaction problems. The goal of the combination of two neighborhoods is (to try) to reduce the height of the packing while avoiding solutions with (hard to fill) tall and thin wasted spaces. Diversification relies on a set of historically "interesting" packings. The tabu structure avoids visiting similar packings. To assess the proposed approach, experimental results are shown on a set of well-known benchmark instances and compared with previously reported tabu search algorithms as well as the best performing algorithms.</p>
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