



Kolloquium zur Masterarbeit

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„An Algorithm for Multi-objective Vehicle Platooning“

The need for road transportation has grown dramatically in recent years. As a result, these major transportation companies are faced with significant challenges, such as increased transportation demands and rising fuel prices. Therefore, these companies are looking for efficient and environmentally friendly solutions. Vehicle Platooning is one of the techniques to achieve this problem. Platooning is the joining of two or more vehicles with short distances between them. It minimizes air resistance and helps with fuel economy.

This thesis proposes a new solution to the challenge of multi-objective vehicle platooning on large-scale road networks. This thesis presents two solution methodologies, the epsilon constraint method, and the NSGA-II algorithm. Prove that NSGA-II is superior to epsilon constraint for multi-objective vehicle platooning problems on a large scale. For example, the Epsilon constraint took 41102 seconds to locate the Pareto front, while NSGA-II took only 178 seconds.

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