Model of the Increasing the Capacity of the Train and Railway Track by Using the New Type of Wagon

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Abstract : The paper deals with possibilities of increase train capacity by using a new type of railway wagon. In the first part is created a mathematical model to calculate the capacity of the train. The model is based on the main limiting parameters of the train - maximum number of axles per train, the maximum gross weight of the train, the maximum length of train and number of TEUs per one wagon. In the second part is the model applied to four different model trains with different composition of the train set and three different average weights of TEU and a train consisting of a new type of wagons. The result is to identify where the carrying capacity of the original trains is higher, respectively less than a capacity of the train consisting of a new type of wagons.