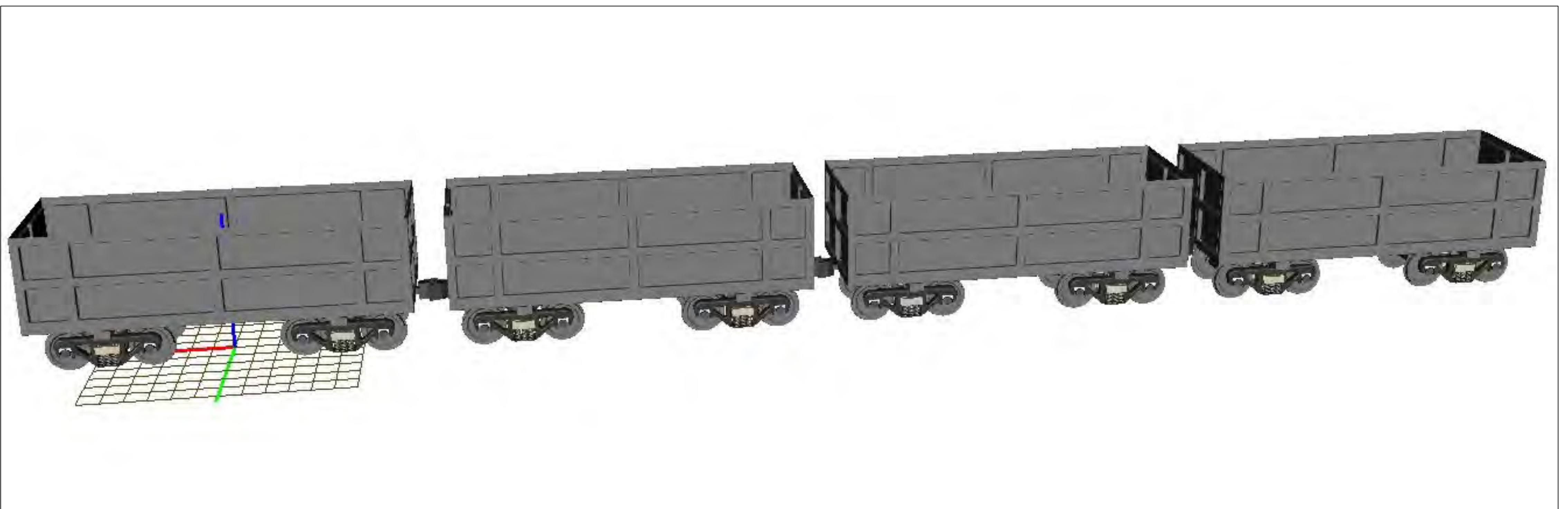


UM TRAIN MODULE FOR TRAIN DYNAMICS SIMULATION

OVERVIEW

The module for simulation of train dynamics (UM Train) is developed in the program package "Universal mechanism". This module automates the process of train model creation and the analysis of obtained results.



MODELING TECHNIQUE

Every vehicle of the train in terms of Universal Mechanism is a subsystem which can be a model of any complexity.

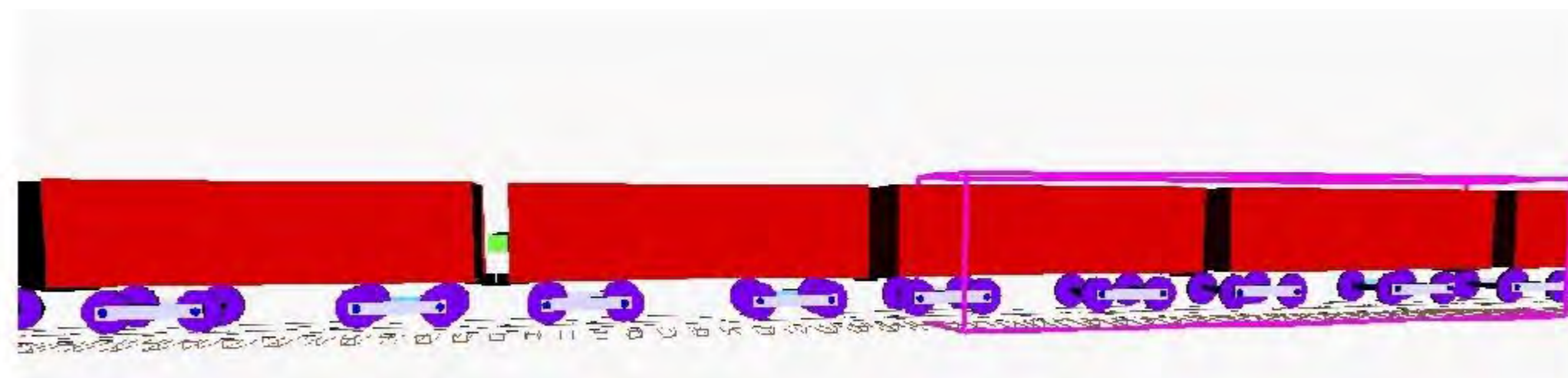
Though in most cases it is enough to create a single-mass model of a vehicle, more precise vehicle model can be included in the train model to make more detailed analysis of a separate vehicle in the train.

UM TRAIN3D

UM Train3D module is a superstructure over the UM Loco and UM Train modules. It allows the user to create tractive connections, as well as inserting in a train any number of 3D models of rail vehicles.

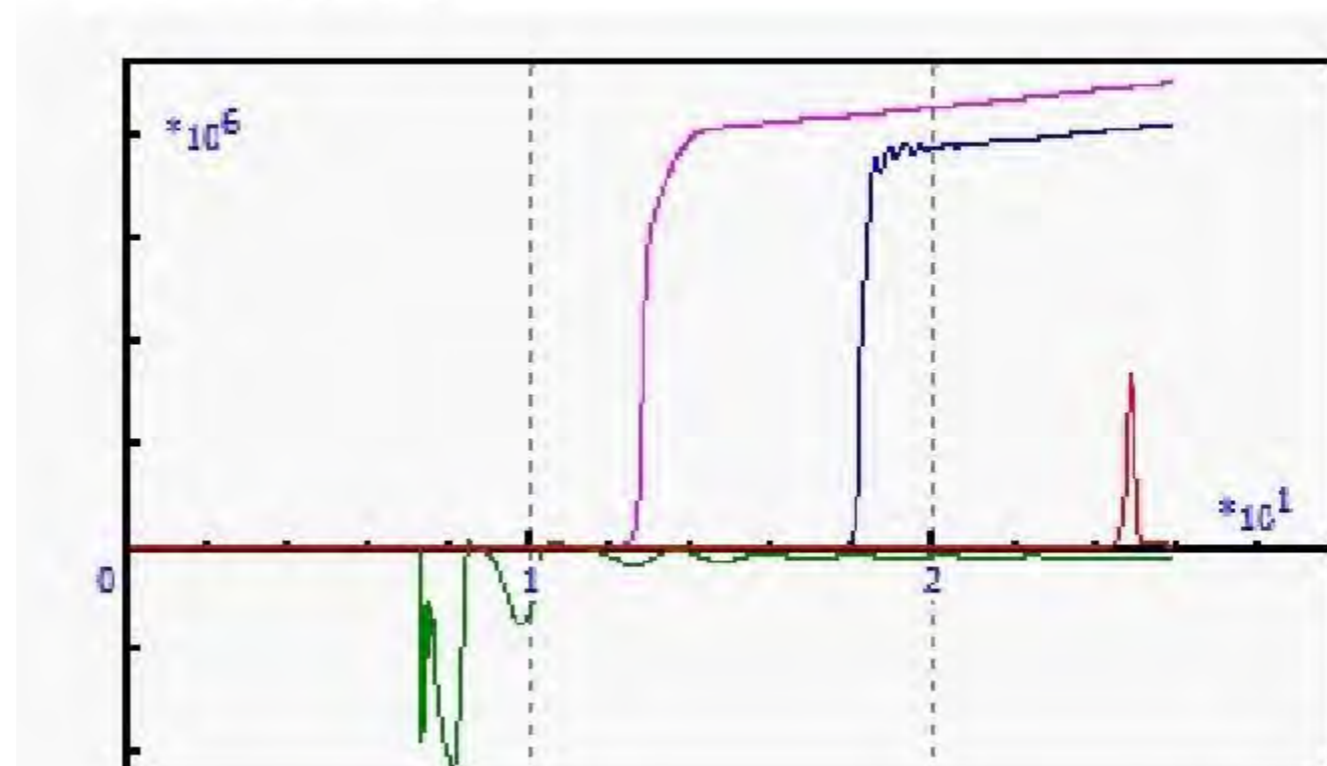
In particular, a train model can include a tractive connection of several cars and/or locomotives or it can be completely combined of 3D vehicle models.

UM Dumper Model Outputs



- X axis is time (sec) in both graphs.
- Positioner arm plateau speed in the UM model is 0.4 m/s.
- Car_7: green
- Car_73: pink
- Car_145: blue
- Car_233: red

Coupler Forces (N)



Velocity (m/s)

