Development of Vehicle handling performance prediction system using ADAMS/CAR
-- Prediction of the static suspension characteristics --

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Abstract

It is difficult for chassis design engineer to conduct the mechanical simulation using ADAMS software in the project usuage without specialized knowledge, skill for ADAMS and the operational skill for the simulation system.

These have been the obstacles for chassis design engineers to use ADAMS for many years. To solve this problem and improve the ease of use of the software, we have been developing vehicle handling performance prediction system by customizing ADAMS/CAR.

I will present the process of customization and the prediction of the static suspension characteristics as application example.

Vehicle Handling Simulation using ADAMS/Nissan*1

*1 ADAMS/Nissan is a customized ADAMS/Car

1. Suspension Characteristic Simulation:

Calculate camber stiffness, lateral compliance,etc.
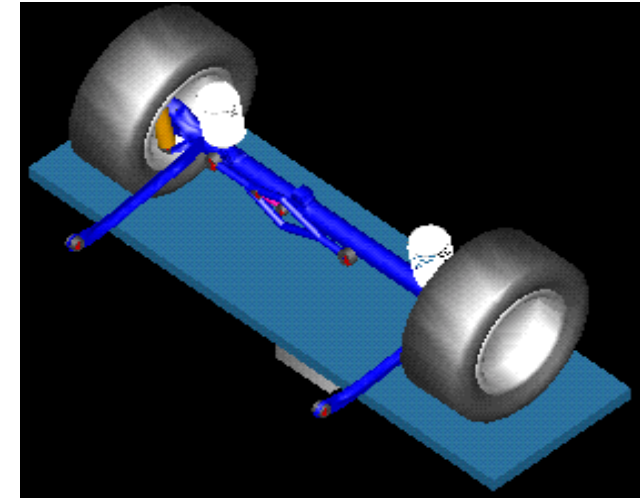.With Rigid link
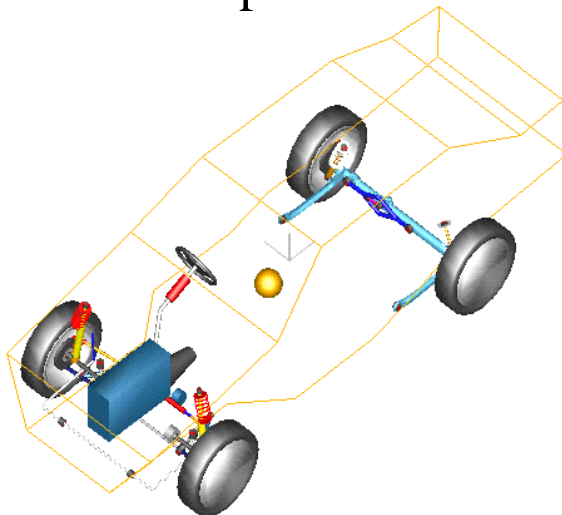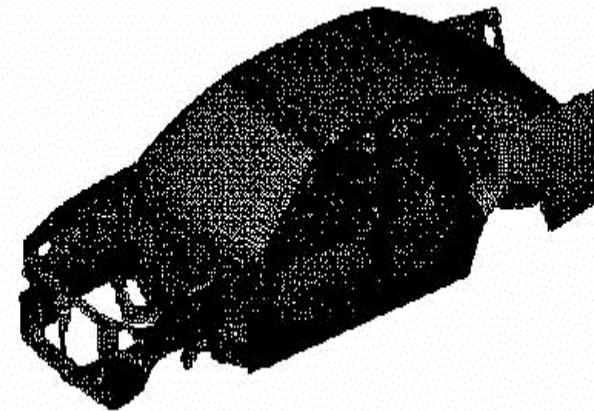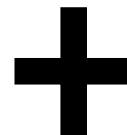or
.With flexible Beam, Arm

fig.1 Mult Link Beam Rear SUSP

2. Full Vehicle Simulation:

Calculate a response of a flexible body to lateral force input at front tire.

ADAMS Suspension model

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Flexible Body Model