

Vehicle Dynamics IPG CarMaker



What is IPG CarMaker about?

IPG CarMaker is one of our team's most important simulation tools. During the whole season, the software allows us to test and validate different control systems concepts, before they are tested on the real car.

The software is widely used in the automotive industry as a development tool for driver assistance systems. With our vehicle model we are able to use the software to simulate the cars performance virtually. We can develop and test new control systems virtually before testing them on the real car to improve our testing efficiency.

In case you are wondering what control systems are. Through our sensors and driver inputs, we are able to calculate the target driving conditions (yaw rate/wheelspeed/slip). Then we can apply the control systems, such as Torque Vectoring, that allows us to vary the torque distribution between our four wheels independently to optimize cornering performance. With IPG Carmaker we are also able to do SIL and HIL testing.

For the upcoming season we are looking for reinforcement in the development of our vehicle model, control systems and the correlation between HIL (Hardware In Loop) and SIL (Software In Loop).

Additionally we need your support in the daily work with the simulation. For example for the creation of load spectra or for concept studies. As part of the vehicle dynamics group you will be responsible for the test and race operation of our vehicle and spend a lot of time with us on the test track.

What will be your tasks?

- Further development of the vehicle model
- Development and testing of control systems
- Collaboration in group-wide tasks (testing, manufacturing, ...)
- Taking part in group and team meetings

What are our requirements?

- High motivation and dedication to the team
- Preferably studies in the field of Mechanical Engineering, physics, CES or Automotive Engineering
- Ideally previous knowledge of Matlab/Simulink
- Interest in vehicle dynamics correlations and simulations
- Good command of English



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