

## DIPLOMA THESIS OR PROJECT WORK

### Dynamics and Control of a Sports Car

Sports cars are designed to work at the limits of handling. They need to compromise issues of stability and controllability which puts high demands both on the driver and on the vehicle, e.g. the chassis and the tyres. Studying the dynamics and control of a sports car compels a more detailed understanding of the nonlinear system behaviour involving the use of methods related to

- Simulation
- Lap time optimisation
- Control design
- Testing of new functions at a sports car (available at E325-01)



Interestingly, the same topics are also most relevant for autonomous driving, where critical situations at the limits of handling may appear, which need to be safely resolved by a robot driver or an autonomous driving function. Therefore, learning to analyse, optimise and control the dynamic behaviour of a mechatronic system, like a sports car, at its physical limits will enhance one's own skills and knowledge, helpful to many other and more general applications of dynamical systems.

If you are interested in working out a diploma thesis or project work and to join our team, please contact is by sending a short email, see contact below. We will then meet and find out which of our topics will fit best to you, as we have topics with a more theoretical or a more practical focus, you may wish to cooperate with a company or you may being part an internal project, etc. We will find out together.



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Vienna, September 8, 2022